DETERMINING CRITICAL FACTORS OF E-GOVERNMENT ADOPTION AMONG ACCOUNTANTS IN IRAQ

By

SURA NAUFEL BAHJAT

Research Paper Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
in Partial Fulfillment of the Requirement for the Master of Sciences
(International Accounting)

Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz
TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PENYELIDIKAN
(Certification of Research Paper)

Saya, mengaku bertandatangan, memperakukan bahawa
(I, the undersigned, certified that)
SURA NAUFEL BAHJAT (822348)

Calon untuk Ijazah Sarjana
(Candidate for the degree of)
MASTER OF SCIENCE (INTERNATIONAL ACCOUNTING)

telah mengemukakan kertas penyelidikan yang bertajuk
(has presented his/her research paper of the following title)

DETERMINING CRITICAL FACTORS OF E-GOVERNMENT ADOPTION AMONG ACCOUNTANTS IN IRAQ

Seperti yang tercatat di muka surat tajuk dan kulit kertas penyelidikan
(as it appears on the title page and front cover of the research paper)

Bahawa kertas penyelidikan tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.
(that the research paper acceptable in the form and content and that a satisfactory knowledge of the field is covered by the research paper).

Nama Penyelia : **DR. MARHAIZA IBRAHIM**
(Name of Supervisor)

Tandatangan :
(Signature)

DR MARHAIZA IBRAHIM
Senior Lecturer
Audit and Information Systems
School of Accountancy
College of Business
Universiti Utara Malaysia

Tarikh : 13/12/18
(Date)

Permission to Use

In presenting this research paper in partial fulfilment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this research paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my research paper. It is understood that any copying or publication or use of this research paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my research paper.

Request for permission to copy or to make other use of materials in this thesis in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman

Acknowledgement

In the name of God, the Most Gracious, the Most Merciful.

I would like to express my gratitude to Allah SWT for his blessings and for allowing me to complete this M.Sc. journey successfully. Having glorified Allah, I would also like to thank my supervisor and mentor Doctor Marhaiza Binti Ibrahim for guiding me throughout this journey. Her kindness, knowledge, and wisdom are highly appreciated as her constructive criticisms, valuable suggestions, and support made this milestone achievable.

I am also heartily thankful to my beloved parents (Dr. Naufel and Dr. Eman) for their moral and spiritual support during this journey. Their hard work concept and endurance that I imbibed made every great achievement of my life just like this possible. My gratitude also goes to my wonderful sisters Hawraa, Ronza, Asmaa, Duaa and brother Abd Al-Muttalib for their inspiration and support to finish my study. Likewise, my husband, Salih Yahya is highly appreciated for his endurance, prayers, and moral support during this journey, who was standing firm by me to face every challenge together as colleagues and family. Also, I would also like to extend my gratitude to my family in law, especially my mother ln law, and all my friends to say thank you for supporting and motivating me during my study period.

Lastly, I thank all the members of the viva committee and every other member of OYA and TISSA UUM at large. This research would not have been successful without the help and support of many others either directly or indirectly involved.

Abstract

There are limited studies on e-government adoption among accountants in countries experiencing conflicts. Similarly, there are limited studies that aim to investigate the inefficient e-government adoption due to the lack of regulations support and poor information system. Hence, the objectives of this study were to investigate the factors influencing e-government adoption and whether regulation support plays a moderating role in Iraq. This study used the Unified Theory of Acceptance and Use of Technology (UTAUT) Model to develop the research framework. This study was underpinned by five variables representing (public performance expectancy, public facilitating condition, public effort expectancy, information system quality, and social influence) were tested, and regulation support was included as a moderator with five moderating hypotheses. Data were collected through OneDrive online survey compromising 400 sample, 108 from the Kurdistan Region, and 292 from Iraq. The result reveals that four variables (public performance expectancy, public facilitating condition, information system quality, and social influence) have a significant relationship with e-government adoption. However, public effort expectancy shows an insignificant relationship with e-government adoption. Interestingly, regulation support moderates the relationship between (public effort expectancy, information system quality, and social influence) and the e-government adoption. This study contributes to the richness of UTAUT model with the inclusion of information system quality and regulation support to the research framework. Also, this study offers valuable insights to the government and policy-makers who are responsible for assisting in the e-government service operations. The result also contributes to the explanation of e-government adoption levels and the government could formulate strategies to encourage employees to adopt e-government in the developing and conflict areas. Conclusions, limitations and suggestions for future studies are also highlighted.

Keywords: e-government adoption, accountants, regulation support, information system quality, UTAUT model.

Abstrak

Kajian terhad telah didapati dalam penggunaan e-kerajaan dikalangan akauntan di negara-negara yang mengalami konflik, demikian juga dengan penyelidikan terbatas yang bertujuan untuk mengkaji penggunaan e-kerajaan yang tidak efisien akibat kurangnya sokongan peraturan dan sistem informasi yang lemah. Oleh itu, objektif kajian ini adalah untuk mengkaji faktor-faktor yang mempengaruhi penggunaan e-kerajaan dan sama ada faktor sokongan peraturan memainkan peranan sebagai moderator di negara Iraq. Kajian ini menggunakan Teori Bersepadu Penerimaan Dan Penggunaan Teknologi (UTAUT) bagi membangunkan rangka kerja penyelidikan. Kajian ini disokong oleh lima pembolehubah yang mewakili (jangkaan prestasi awam, keadaan kemudahan awam, jangkaan usaha awam, kualiti sistem maklumat, dan pengaruh sosial) yang telah diuji. Sokongan peraturan juga dimasukkan sebagai moderator di dalam lima hipotesis. Data dikumpulkan melalui kaji selidik atas talian OneDrive yang mengumpulkan 400 responden, 108 dari Wilayah Kurdistan, dan 292 dari negara Iraq. Dapatan menunjukkan bahawa empat pembolehubah (jangkaan prestasi awam, keadaan kemudahan awam, kualiti sistem maklumat, dan pengaruh sosial) mempunyai hubungan yang signifikan dengan penggunaan e-kerajaan. Walau bagaimanapun, jangkaan usaha awam menunjukkan hubungan yang tidak signifikan dengan penggunaan e-kerajaan. Menariknya, sokongan peraturan menjadi moderator antara hubungan (jangkaan usaha awam, kualiti sistem maklumat, dan pengaruh sosial) dan penggunaan e-kerajaan. Kajian ini menyumbang kepada teori UTAUT dengan memasukkan faktor kualiti sistem maklumat dan sokongan peraturan kepada rangka kerja penyelidikan. Kajian ini juga memberikan pandangan berharga kepada kerajaan, dan pembuat dasar yang bertanggungjawab untuk membantu dalam operasi perkhidmatan e-kerajaan. Hasilnya juga menyumbang kepada penjelasan tahap penggunaan e-kerajaan. Kerajaan juga dapat merumuskan strategi untuk menggalakkan pekerja untuk menggunakan e-kerajaan di negara-negara membangun dan Kawasan terjejas akibat konflik. Kesimpulan, batasan dan cadangan untuk kajian masa depan juga dibincangkan.

Kata kunci: Penggunaan e-kerajaan, Akauntan, Peraturan Sokongan, Kualiti Sistem Maklumat, Model UTAUT.

Table of Contents

List of Tables

Table of Figures

List of Appendices

List of Abbreviation

Full Name	Abbreviations
Economic Co-operation and Development	OECD
E-Government Adoption	E-GA
Electronic Government	e-government
Electronic government development index	EGDI
Electronic Participant Index	EPART
Government to Business	G2B
Government to Citizens	G2C
Government to Employees	G2E
Government to Government	G2G
Heidelberg Institute for International Conflict Research	HIIK
Information Communication Technology	ICT
Information System	IS
Information System Quality	ISQ
Innovation diffusion theory	IDT
Innovation diffusion theory	IDT
Internet of Things	IoT
Islamic State of Iraq and Syria	ISIS
Model of PC Utilization	MPCU
Motivational Model	MM
Partial Least Squares Structural Equation Modelling	PLS-SEM
Public behavioural intention to use e-government	PBIG
Public Effort Expectancy	PEE
Public Facilitating Condition	PFC
Public Performance Expectancy	PPE
Regulation Support	RS

Smart-PLS	S-PLS
Social Cognitive Theory	SCT
Social Influence	SI
Technology acceptance model	TAM
Technology Adoption	TA
The Purposive Sampling Technique	PST
Theory of planned behaviour	TPB
Theory of reasoned action	TRA
Total Quality Management	TQM
Unified theory of acceptance and use of technology	UTAUT
United Nations Development Program	UNDP
United States Agency for International Development	USAID

CHAPTER ONE
INTRODUCTION

1.1 Introduction

This section introduces the study background, articulation of the problem statement, research questions, and research objectives. It also gives a short explanation of the research significance, benefits, and scope of the study. Finally, the chapter also presents the research structure and chapter summary.

1.2 Background of the Study

The Electronic Government or e-government had arisen in the late 1990´s, the computing history in governmental organisations can be traced to the historical stages of the computers (Danziger & Andersen, 2002; Ibrahim, 2017; Norris & Kraemer, 1996). E-government importance increased in the modern days, where it can support and improve performance, transfer, efficiency, effectiveness, transparency, and accountability among state governmental units and local units, residents and organisations (Al-Shboul, Rababah, Ghnemat, & Al-Saqqa, 2014; Daoud & Ibrahim, 2017). The use and execution of e-government deliver several advantages for the public allowing them to convey more proficient data and essential services to all beneficiaries (Al-Shboul et al., 2014; Alenezi, Tarhini, Masa'deh, Alalwan, & Al-Qirim, 2017; Chatfield & Alhujran, 2009; Monga, 2008).

E-government has been defined by many analysts some alludes to e-government as the utilisation of electronic means, for example, PCs and Web to convey public services to residents and different people in a nation or district (Grönlund & Horan, 2005; Scholl, 2003). The World Bank illustrate it is the utilisation of information

technologies (IT) and the Internet to promote the superiority and scope of service delivery to residents and different partners by making government more proficient, available, successful, responsible, and straightforward (Ifinedo, 2012). In summary, this research defined e-government as the transmission of government-related information and correspondent services to inhabitants of the country over an electronic mean.

During the contemporary digitalised era, enormous quantities of investment regarding the Information and Communications Technology (ICT) had been undertaken. Mainly, e-government research is an accumulation of descriptive case studies (Grönlund & Horan, 2005; Janssen & Estevez, 2013; Muñoz, López, Amaral, Herguera, & Valarezo, 2018). Researches that investigated the relationship between government, technology, and society have mounted significantly over the former years (Dawes, 2009; Osman et al., 2014). E-government has many forms of conduct; many digital exchange forms take place under e-government (Jeong, 2007; Nica & Potcovaru, 2015), as shown in figure 1.1.

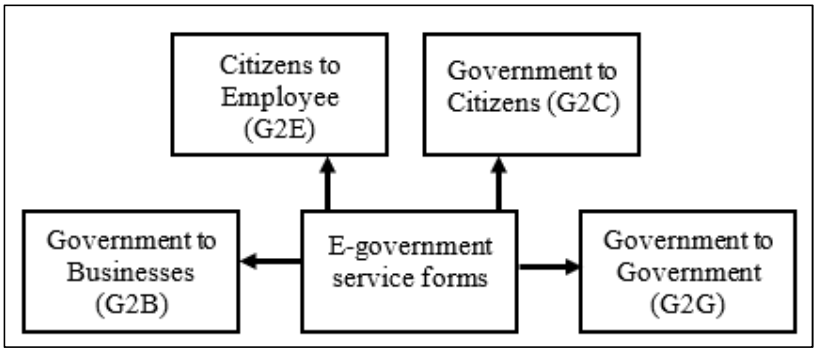


Figure 1.1
Forms of e-government Service

Nowadays, nations commenced e-government into their system with the determination to guarantee improved and more up-to-date ways for governments to manage information. This is particularly true in the Western Asian regions, where although

large sums of money and enormous resources have been invested in developing solutions and higher levels of services maturity, yet those goals have not been realised (Ebrahim & Irani, 2005; Fakhoury & Aubert, 2017; Nica & Potcovaru, 2015; Ritchi, Fettry, & Susanto, 2016). Much has been discussed about e-government projects in a wide range of countries around the globe; many researchers devoted time and attempts have been undertaken to assess e-government. Those studies came in many forms to cover both territorial areas and countless topics and forms, such as surveys that can be found at several gateways on the internet, others are showcases, and many of these researches are in a detailed qualitative form of case studies (Devadoss, Pan, and Huang, 2002; Grönlund & Horan, 2005; Nica & Potcovaru, 2015; Janssen & Estevez, 2013; Ke, and Wei, 2004).

Distinctive investigations utilise different e-government measures of activity since they centre the emphasis around various perspectives, contemplates have been covering issues fluctuating from the implementation of those services to multidimensional indexes (Grönlund, 2010; IBM and EIU, 2002; UNDESA, 2003). Most of the studies focus on measuring success, and the connection between e-government progress in developed countries and even some developing countries, both are in the case of a stable environment. However, more Arab countries need attention on studying e-government is required, and especially in areas of unstable environment and civil conflict where those propose a different contextual environment (Naheb, Sukoharsono, & Baridwan, 2017; Ritchi et al., 2016).

Due to the current state of security since 2003, Iraq finds itself coming to terms with how to progress as a nation. The strategic intent of the government has to address issues on social, economic and political fronts (Nichols, 2017). An e-government

strategy has the power to redefine every aspect of how a government conducts its business. If implemented well, it cuts across every function of the business of government, and the transformation of government must be a common goal (Martinus, Sharief, & Graul, 2007; Zapata & Heeks, 2015).

1.3 Problem Statement

Researchers previously have examined service delivery and its connection to e-government in developed nations throughout the years, accordingly, in developing nations little is perceived concerning the present condition of e-government and its effect on service conveyance (Al-Sobhi, Weerakkody, & El-Haddadeh, 2011; Assar, Boughzala, & Boydens, 2011; Naheb et al., 2017; Ritchi et al., 2016). The e-government studies regarding reception and use in developing nations have an uncommon worth that differs from developed nations and considered more vital (Assar et al., 2011; Kumar, Mukerji, Butt, & Persaud, 2007; Ritchi et al., 2016). On the other hand, Al-Sobhi et al. (2011) stressed that the utilisation rate of e-government service among residents decides its prosperity or failure. When the government adopts a project like e-government, participation by citizens should also be considered to help strengthen and improve the relevance and quality of government processes and services (Al-Taie & Kadry, 2014).

The e-government reception in Iraq began in 2003, and from that point forward analysts have directed much efforts to assess and measure its viability and obstructions such as Al-Dabbagh (2011); Faaeq et al. (2013); Hassan (2016); Lee, Braynov, & Rao (2003); Martinus et al. (2007); Mohammed, Eman, Hussein, & Hasson (2015); Mohammed et al. (2016); Mohammed, Ibrahim, Hussein, & Anad (2013); Zakaria (2015), among others. Alongside the government endeavours to enhance this service

such as signing international understandings, joint Framework with UNDP, management project, etc. (Al-Sammarraie, Faieq, & Al-Qasa, 2016; Al-Taie & Kadry, 2014; Mohammed et al., 2016). Two distinct streams can be identified by referring to the existing literature on the Iraqi e-government. The first, all developing countries, especially Iraq as it lies behind most of the developing countries (Al-Taie & Kadry, 2014), are still affected by a lack of infrastructure, awareness, human resource capacity, technical skills, inexpensive technology, and effective government regulation, unlike developed nations (Alshehri, Drew, & Alfarraj, 2012; Dwivedi & Irani, 2009; Farhat, 2018; Ahmad, Markkula, & Oivo, 2013; Rehman, Esichaikul, & Kamal, 2012). Additionally, Iraq also face instability, war, and civil conflict that affects service usage (Fearon, 2007; Nichols, 2017; Trevithick, 2017).

Second, after 15 years of adoption and improvement cycle, which is a long time to be refining and investing in an evolving model, the Iraqi e-government is still behind regarding full utilize and powerful execution contrasted with the world (Abdulrahman, Kamaruddin, & Othman, 2018; Al-Taie & Kadry, 2014; Al Azzawy, 2017; EGOVKB, 2016; Martinus et al., 2007). The e-government portal provides the ability to find information, submit inquiries, with the possibility of forms downloading, only in a restricted way as it is not compatible with the global efficiency level (Al-Sammarraie, 2016; Azeez, 2014; Mohammed et al., 2016; Shareef, 2012). Although various national, provincial, and local e-government initiatives have been implemented in Iraq. Yet, the current state of e-government and the future of e-government in Iraq is unclear (AlEnezi, AlMeraj, & Manuel, 2018; Al-Taie & Kadry, 2014). Hence, this research aims to investigate the current level of e-government adoption among accountants in Iraq.

Furthermore, as factors of success are ought to be in the centre of attention to accomplish favourable e-government adoption (Ziemba, Papaj, & Żelazny, 2013). Venkatesh et al. (2003) indicated under the Unified theory of acceptance and use of technology (UTAUT) theory four factors that influenced e-government utilisation, namely Social Influence (SI), Performance Expectancy (PE), Effort expectancy (EE), and Facilitating Conditions (FC). However, the factors EE and PE has revealed fluctuation result as shown in table 2.2. This inconsistency in finding may be a result of different applicable environment, where Alvesson & Kärreman (2007) and Khan (2012) argued that developing and developed countries produce un-similar finding and result, nonetheless unstable environment, which could reflect new results and findings due to the different contextual environment and culture (Al-Gahtani, Hubona, & Wang, 2007; Im, Hong, & Kang, 2011; Kamau, 2017; Rose, Persson, Heeager, & Irani, 2015; Straub, Keil, & Brenner, 1997; Thomas, Singh, & Gaffar, 2013). Since Naheb et al. (2017) indicated that further studies regarding e-government must be conducted in Arab countries, thus, Iraq is considered the case study that attempts to address this fluctuation issue, along with amending the model to suit the Iraqi environment.

Currently, the Iraqi government is paying more attention to set up a reliable e-government infrastructure for their staff and citizen, such as the role of law, participation, transparency, and responsiveness (Al-Azzawy, 2017). Therefore, there is substantial demand and need for studying the role of law (Al-Azzawy, 2017; Mohammed et al., 2016). Moreover, Obaji, Adekanbi, & Obiekwe (2015) and Nugroho (2015) argued that lack of Regulation Support (RS) and mandatory use could be the reason for non-efficient adoption, as RS plays a vital role on innovation adoption as a moderator. On the contrast of voluntary use, mandatory adoption of innovation is

considered the main driver behind adoption. The RS obtained from the government provide capability and motivation for institutions to advance specific technological development by protecting those organisations that are using specific technology (Kuan & Chau, 2001; Oliveira & Martins, 2011; Zhu, Dong, Xu, & Kraemer, 2006; Zhu & Kraemer, 2005). The Iraqi government from the year 2007 until 2017 is still on the path of launching laws and regulations intended to support the e-government service (Al-Azawei, Parslow, & Lundqvist, 2016; Al-Dabbagh, 2011; Hassan, 2016; Martinus et al., 2007). Due to compelling compliance, the effectiveness of mandatory approach in enhancing actions is thought to be higher. However, if enforcement is lax and regulations are not taken seriously the adoption effectiveness will be weakened (Kimani, Mouni, Wanjau, & Mungatu, 2015; May, 2005; Tariq & Mat, 2017).

On the other hand, Avison & Harper (2003) and Heeks (2005) argue that e-government is considered an Information System (IS). Accordingly, it can be categorised as a Socio-Technical system (a combination of social and technological aspects). Also, Information Systems Quality (ISQ) (measured by financial statement quality and system quality) is considered an important IS adoption success (Elzahar & Hussainey, 2012). Many factors influence the quality of information such as the quality of the system, organisational or individual impact, and user satisfaction (Elzahar & Hussainey, 2012; Stair & Reynolds, 2017). Improved website design and information quality could increase satisfaction and trust of the end user's reducing resistance to change (Lallmahomed, 2017; Belkaoui, 2004; Ritchi et al., 2016).

In summary, this research aims in extending the literature knowledge base in Iraq by adopting a new and different perspective from previous researchers which is the accountant's perspective. Elsheikh, Cullen, & Hobbs (2008), Appelbaum, Kogan,

Vasarhelyi, & Yan (2017), and Alves (2017) indicated that examining accountants perspective is considered essential to highlight regulation and governmental support effect in aiding the organisations, and their ability to do their work as smoothly, efficiently, and effectively, hence achieving efficient adoption of e-government. Furthermore, this study extended the theory by examining ISQ and adding RS as a moderator factor under UTAUT in the different contextual environment of Iraq.

1.4 Research Questions

1. What are the critical determining factors of e-government adoption among accountants in Iraq?
2. Does Regulation Support moderate the relationship between PPE, PEE, PFC, SI, ISQ, and the E-GA?
3. What is the current e-government adoption level among accountants in Iraq?

1.5 Research Objectives

1. To investigate the critical determinant factors of e-government adoption among accountants in Iraq.
2. To investigate whether Regulation Support, moderate the relationship between PPE, PEE, PFC, SI, ISQ and the E-GA.
3. To investigate the current level of e-government adoption among accountants in Iraq.

1.6 Significance of the Study

The study investigates current practices relating to the e-government which could be a unique benefit to potentially interested parties. Many important factors encourage the researcher to conduct this study. First, this study deployed the UTAUT model as the

underpinning theory aiming to address the inconsistency in the findings regarding the effectiveness of the factors FC, SI, PE, and EE, and tends to extend it by examining the moderator RS along with the merged variable ISQ under the theory.

Second, due to the research deficiency regarding e-government within developing nations, neither less clashed situations, for example, the event of a war that could change the technological advancement reception reflecting new findings. Thus, the researcher aims to contribute to the literature by conducting a further examination under the new environment of Iraq.

Finally, the discovered gap between real e-government execution in Iraq and previous analyst's efforts, have persuaded the researcher into leading this research to assess factors criticalness under the new condition. In the aim of closing the research gap in the actual implementation of e-government in Iraq, this research deployed a new perspective than other previous studies which is the accountants' perspective.

1.7 Scope of the Study

Previous studies related to innovative service adoption have been divided into two main brooks, demand-side and the supply-side. The first brook focus on investigating service usage from the perspective of service suppliers (such as the government). While the second brook study's the service usage from the perspective of demanders or users (such as citizens) to examine the factors influence (Kumar, Sachan, & Mukherjee, 2017; Norris & Moon, 2005; Stephen, Norris, & Fletcher, 2003). This study considered the demand-side perspective, as the main focus is on the government to employee (G2E) e-government services usage among accountants.

Consequently, the unit of analysis in this research is the accountants. Since accountants are considered as employees utilising e-government services, their adoption of the service could impact their work efficiency in a direct manner (Elsheikh, Cullen, & Hobbs, 2008). Therefore, this perspective is convenient to serve as a guideline for the future researchers by providing a significant insight investigation on the deviant of e-government usage in Iraq. Furthermore, the researcher has produced a new insight into PFC, PPE, PEE, and ISQ factors significance of adoption in a new contextual environment, to undertake the unusual sense of e-government adoption and implementation in Iraq (a conflict and corrupt environment). The study is conducted quantitatively by distributing an online questionnaire to accountants who represent the users of the G2E services. The questionnaire is utilised as the main data collection technique.

1.8 Organisation of the Study

This research consists of five chapters. The first chapter includes the introduction part, the research background, statement of the research problem, as well as the research scope and significance, research question, and research objective. The second chapter which is chapter two provides a survey of the e-government past studies based on the literature, the critical success factors, conflict level in Iraq, as well as e-government in Iraq and its current stage.

Chapter three explains the research methodology deployed, as well as research instrument and design, population, sample size, sampling method, data collection, analysis method, operational definition, and variable measurement as well as hypothesis development. Chapter four discusses the data analysis results and findings of the research. Chapter five is the final chapter, which provides the research

implication, conclusion of the research as well as future research opportunities, and limitation.

1.9 Chapter Summary

This chapter deliberated on the e-government background, where it emerged during the late 1990´s and have been in use until our present day. From the various technology models for approval and implementation established and tested extensively by multiple researchers, however, for the aim of this research UTAUT theory is found more appropriate.

In numerous developed or developing nations e-government has been deployed. However, this research extended the research to implement e-government in the conflicted environment. Factors of success are zones and activities which ought to be in the centre of attention; this attention takes place to accomplish the most fulfilling consequences of adoption as the end goal, therefore this research study's PEE, PFC, PEE, SI, ISQ, and RS and their effect on e-government. This chapter also discussed the research objective, questions, scope of the study, as well as the significance and organisation of the study.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter discusses the nature of e-government, e-government service form's, the e-government benefits, the difference between Government and Governance, and difference between Traditional Government and e-government, lastly definition and significance of critical factors for success, those include PE, EE, SI, and FC, as well as the factors ISQ and RS meaning and importance. This section additionally covers general facts about the case study, its clash intensity, e-government venture and the adoption of e-government present phase in Iraq based on previous research, along with a brief identification of e-government challenges.

2.2 Nature of Electronic Government (e-government)

Many nations are approving and utilising e-government due to the great points of interest and benefits for the organisations, which allow convocation of an additionally convincing and efficient data materials. Additionally, e-government approach ensures improved services are delivered to all end customers including inhabitants and business, as well as internal improvement for within the firms as e-government offers more grounded institutional working limit. Finally, empowering national associations to progress their administration and decreasing operating costs (Abdelghaffar & Magdy, 2012; Ifinedo, 2012; Ndou, 2004).

According to Alshehri & Drew (2010) the Organization for Economic Co-operation and Development (OECD) in 2006, mulled over in its countries e-government and stated the benefits of e-government as a) Improving adequacy in dealing with and

taking care of tremendous measures of data b) Supporting government monetary transactions c) Refining organizations by understanding pervasive understanding of customers' requirements d) Information sharing and featuring inward anomalies e) Redesigning straightforwardness f) Trust between government units and their populaces.

The chance of electronic-based interaction with the government is granted by e-government, which in turn promote an ideally favourable domain for empowerment and robust engagement environment (Ifinedo, 2012). The different assortments of customer needs commenced the point of initiating various forms of e-government. Nica & Potcovaru (2015) identified four central e-government utility sorts, everyday concerns of residents and their regulatory interactions are now secured through the electronic mean, the first form is G2C which grants far-reaching electronic communication to react with citizens.

Major business efficiency has been passed on to both organisations and governmental units through the second form G2B. This form aids the advancement of firms in particular for small and medium corporations by invigorating e-trade exercises, such as e-procurement (electronic trade and supply) which is an e-business place that allows organisations to participate in public governmental purchases (tenders) (Alshehri & Drew, 2010b). Just as G2C, G2B helps in redesigning effectiveness, progression, adequacy of correspondence, and exchange between business and government (or citizens and government in case of G2C). Similarly, it grows the decency and straightforwardness of government contracts and exercises (Nica & Potcovaru, 2015).

The G2G is the third form of e-government that permits governmental organisation units to have online correspondences among themselves, various departments, and

international government offices. According to Nica & Potcovaru (2015), it is considered to have a combined database that accepts the sharing of asset and data, along with the abilities and expertise exchange. Lastly, G2E is the fourth and final form of e-government, it is considered the smallest and the last section of e-government literature to be inspected (Alshehri & Drew, 2010). Secretariat (2001) further elaborated that the scarcity of research to identify G2E is the fact that researchers tend for considering it as an interior G2G section. G2E merely indicate the communication amongst the government and their employees; this form is dedicated to employees to provide enhanced online services. Online application for granting yearly leave, payment records, check the remaining leave balance, along with different facilities are some of the G2E services (Seifert, 2003). In summary, the e-government demonstration is similar to any e-service. Hence it has a similar response value classifications that consist out of four autonomous (Zakaria, 2015), those are shown in figure 2.1.

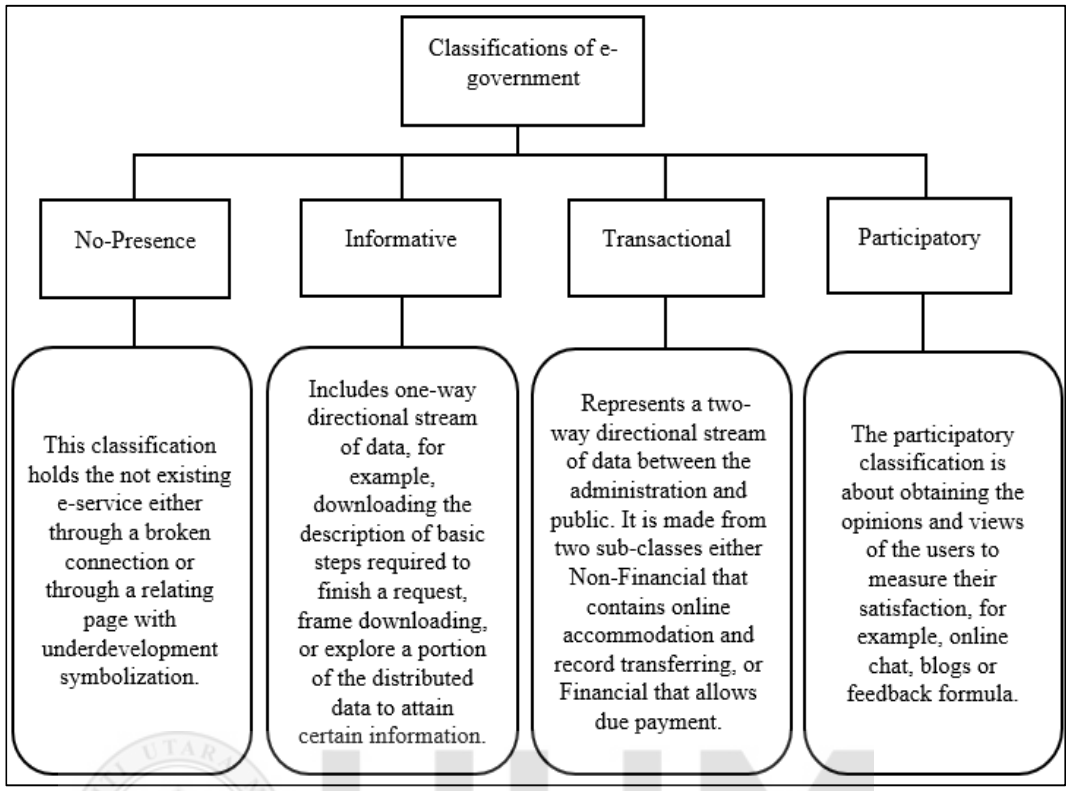


Figure 2.1
The Four Stages of e-government

Most developing nations are seeking any method that provides incentives to the proficiency and conveys an improved straightforwardness to the joint effort with both the law-making bodies and individuals, hence most of those countries are actualising e-government as a method in their economic adjustments (Alaaraj, 2015). Bwalya, Zulu, Grand, & Sebina (2012) assured that e-government has the ability in diminishing dishonesty or misstating facts, in the general it also upgrades the conveyance of services to the population. Moreover, Srivastava (2011), identified three main categorise related the literature of e-government, appropriation and usage, the improvement and advancement of activities, and the effect of e-government, where most of the past focus was dedicated on the connection between service conveyance and e-government.

The link amid service delivery and e-government have been reviewed over the earlier years by various scholars. For representation, in Bangladesh Bhuiyan (2011a) highlighted that e-government delivered substantial benefits to the inhabitants of Bangladesh, for the noteworthy part in improving the public cooperation's, giving skilled and compelling services, finally limiting defilement and destitution. In Kazakhstan, Bhuiyan (2011b) depicted that even not-complete (or Fractional) e-government utilisation several welfares were conveyed. Likewise, Bhuiyan (2011; 2011b) listed some of the operational issues that needed to be improved, for example, nonexistence cognisance and support, technology infrastructure, and the scarcity of skilled Human Resources (HR). Those issues must be caught up to assure transparent service delivery, financially savvy, and cost-effective government.

Sánchez, Domínguez, & Aceituno (2013) conducted a study on the improvement of e-government in 102 Spanish towns; the study results uncovered high data transparency in Spain's urban areas regarding social, financial, and ecological issues. Moreover, the researchers proposed that the participatory status of universal service need to be improved from one-way into becoming a two-way participatory status. Elsewhere, Singh, Pathak, & Naz (2011) also conducted a study regarding e-government and service quality in Fiji and Papua/New Guinea; the finding suggests that e-government contributes in the proficiency, equity, and viability of services.

Rafia (2009) conducted a similar study in Fiji and emphasised that e-government possess the ability to develop service conveyance and boost its quality. Finally, in India, Sharma (2012) demonstrated that a revolution had been brought up by e-government regarding the quality of service transport to the residents, which offers

refined transparency, simple, time-saving procedure, corruption minimisation, improved management, and amended employee behaviour and attitude.

Mainly, previous scholars of e-government focused on conducting researches in developed nations (Kim, 2009; Krishnan & Teo, 2012; Lee, Chang, & Berry, 2011; Pan & Jang, 2008; Wagana, Iravo, Nzulwa, & Kihoro, 2016). Consequently, little is perceived regarding current e-government's status in developing nations (Kumar et al., 2007; Naheb et al., 2017; Ritchi et al., 2016). Moreover, the diffusion of e-government has led to emerging various definitions and meanings has been recognised in different forms by prior researchers (Scholl, 2003), these varieties of assortments and definitions appear in table 2.1 as expressed prior authors.

Table 2.1
The Meaning of e-government Among Researchers and Studies

Author (s) / year	Meaning
(Abramson & Means, 2001)	"The electronic communication between the employees and governments".
(Heeks, 2003)	"The use of information and communication technologies (ICTs) to improve the activities of public sector organisations – brings with it the promise of greater efficiency and effectiveness of public sector operations".
(Biasiotti & Nannucci, 2006)	"The use of information technologies in public administration".
(Alsohybe, 2007)	"The public sector's utilisation of the government-owned/operated highly innovative information and communication technologies delivery of enhanced services to the entire citizens (private sector and government agencies) to encourage citizen empowerment, strengthen accountability, transparency, and service delivery".
(Wangpipatwong, Chutimaskul, & Papasratorn, 2008)	"Online services are relatively faster and accurate compared to traditional services".
(AlAwadhi & Morris, 2008)	"The ICT's employment to enhance information effectiveness, transparency, efficiency, and accountability as well as transactional interactions among governments and their agencies at the level of federal and municipalities and individual levels (businesses and citizens) and to encourage the access and use of information by citizens".

Table 2.1 (Continued)

(Teo, Srivastava, & Jiang, 2008)	"Defined e-government services the ICTs utilisation along the Internet to enhance access and delivery of government services and operations for the benefit of all businesses, employees, citizens, and other stakeholders are continuously transforming public service delivery systems".
(Teo et al., 2008)	"The ICTs utilisation along the Internet attempting to enhance access and delivery of government services and operations for the benefit of all businesses, employees, citizens, and other stakeholders are continuously transforming public service delivery systems".
(Shafi & Weerakkody, 2009)	"As taking advantage of the technology's potential to assist citizens in availing e-services, and this makes citizens the core intention".
(Al-Shafi & Weerakkody, 2010)	"Promises to emulate the private sector by offering more efficient, transparent and accessible public services to citizens and businesses".
(Al-Sobhi, Weerakkody, & El-Haddadeh, 2011)	"It is a way to use web applications to communicate with citizens online".
(Yahya, Nadzar, Masrek, & Rahman, 2011)	"In the context of government operations, e-government is considered as a tool to encourage and improve the efficiency of the delivery process of services catered to the public".

In summary, this research defined e-government as the transmission of government-related information and correspondent services to inhabitants of the country over an electronic mean.

2.3 Difference Between Traditional Government and e-government

The new digital era demands a change in societies; nowadays governments aim to have a fully digital government transaction, in which businesses and citizens can handle all their affairs with the government electronically. In most of these conceptualisations, the amount of information and possibilities are increasing using the internet (Ebbers, 2017). AlEnezi et al. (2018), stressed that e-governments are built on the Internet of Things (IoT), the IoT has revolutionised the 21st century shifting the market gear towards improved governments.

These governments involve innovative operations, communications and technological infrastructures across multiple domains to provide sustainability and serve the needs of the public (Harsh & Ichalkaranje, 2015). By realising the numerous benefits, governments across the world have started allocating budgets worth billions towards moving from the traditional government to e-government (Ebrahim & Irani, 2005; Fakhoury & Aubert, 2017; Harsh & Ichalkaranje, 2015; Ibrahima & Selamat, 2015; Nica & Potcovaru, 2015). The e-government is the ideal type of performing public services in many countries aspire to establish, it involves the public in all its affairs, open and transparent (AlEnezi et al., 2018). As the e-government gained high popularity in the new digital era, many analysts specified the difference between the traditional government and the e-government highlighting the advantages of e-government, such as (Abdulrahman et al., 2018; AlEnezi et al., 2018; Bashar, Razael,

& Grout, 2011; Ibrahim & Selamat, 2015). A summary of the difference between traditional government and e-government is presented in figure 2.2 below.

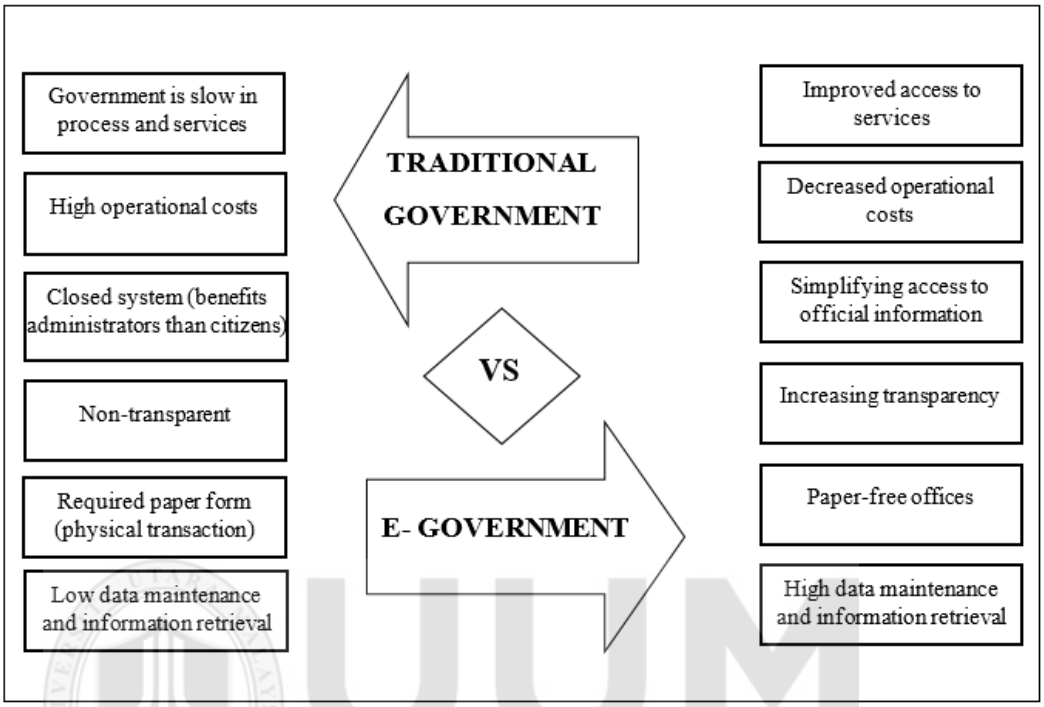


Figure 2.2
Traditional Government Compared to e-government

2.4 Difference Between Government and Governance

The difference between the two definitions in political science goes back for an extended period, however, e-government and IS researchers tend to utilise definitions that are a bit confusing. E-government alludes to what is occurring inside associations of the government, in IS researcher this term illustrates that governmental institutes provide services for firms or citizens (Grönlund & Horan, 2005; Faur, 2012). A government plays a dynamic role in the social organisations, allocating resources, allotting resources, education, political steadiness, setting laws, health, and fortification that private sectors cannot provide (Faur, 2012).

On the other hand, e-governance according to Faur (2012) refers to the entire system associated with society management. Cooray (2009) indicated that governance has a four-level index used as indicators, those indicators are used first to examine then rank the government quality on providing economic growth, those indicators range as a scale from very high, high, low, to very low. In summary, the government has s short-term focus on precise activities, while the long-run processes and outcomes indicate governance (Grönlund & Horan, 2005; Cooray, 2009). For example, Grönlund & Horan (2005) stated that governments set up rules, why they do is the goal, and how they will be evaluated is performance, figure 2.3 illustrates the variance.

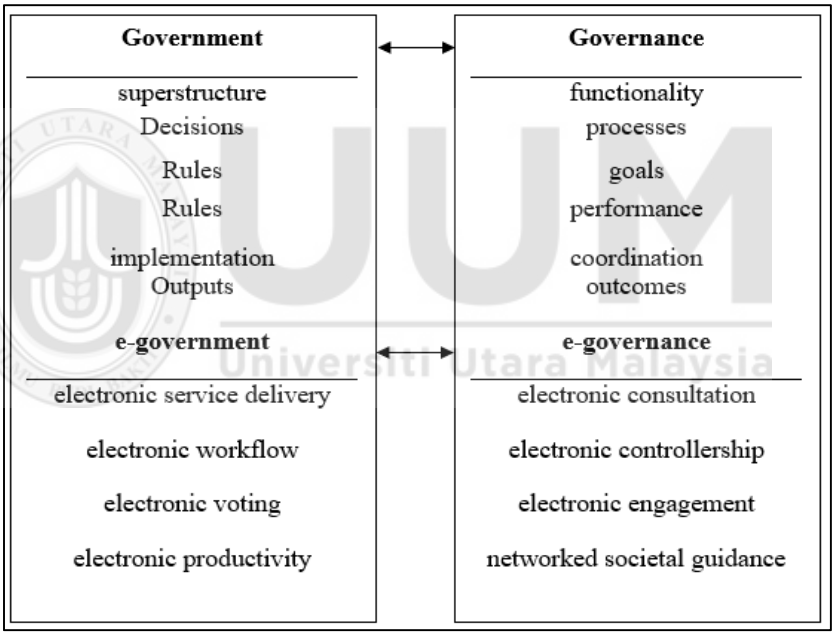


Figure 2.3
Government Compared to Governance
Source: Sheridan & Riley (2006)

Although the e-government and e-governance terms are interlinked, the meaning of those two has a slight difference. The (e) denotes the electronic instrument influence, such as applications, the internet, or computers. According to Chadwick & May (2003) e-government refers to *"Government's use of ICT to work more effectively, deliver*

better services, and share information to the public", hence it is considered as a mean to reduce costs along with speeding up the services delivery process (Chadwick & May, 2003; Itika et al., 2011). On the other hand, Pathak, Singh, Smith, & Naz, 2008 added "*The e-governance is the actual use of these instruments*", this signifies the relationships among governments and citizens (Pathak et al., 2008; Singh et al., 2011).

2.5 Critical Success Factors of e-government Adoption

Regardless of the few theories involve both government and technology (Grönlund & Horan, 2005; Janssen & Estevez, 2013; Muñoz et al., 2018). Different models and theories for technological approval and implementation have been recognized and verified extensively to study e-government, such as "*Technology Acceptance Model*" (TAM) based on Davis, Bagozzi, & Warshaw (1989), "*Theory of Planned Behaviour*" (TPB) by Ajzen (1991), "*Innovation Diffusion Theory*" (IDT) by Valente & Rogers, (1995), and "*Theory of Reasoned Action*" (TRA) Fishbein & Ajzen (1975). Based on the proposed theory of Venkatesh, Morris, Davis, & Davis (2003), the "*Unified theory of acceptance and use of technology*" (UTAUT) is a model that integrates recognition contributing factor across numerous rival models.

The theory had been validated in different empirical sceneries as having greater clarification power over past models (Maldonado, Khan, Moon, & Rho, 2011; Lin, Lu, & Liu, 2013). Venkatesh et al. (2003) developed the UTAUT theory based on eight prior theoretical models TAM, IDT, Model of Personal Computer Utilization (MPCU), TPB, Combined TAM and TPB (C-TAM-TPB), TRA, Motivational Model (MM), and Social Cognitive Theory (SCT). Therefore, it is more appropriate to adopt all eight theories at a time by integrating them under UTAUT as a ground theory for the current research (Maldonado, et al., 2011; Lin, et al., 2013). Also, previous theories are used

to investigate organisations perspective (Daoud & Ibrahim, 2018). However, the UTAUT theory was developed to focus on investigating and studying individual's perspective (Adulwahab & Dahalin, 2011; Ibrahim, 2012; Venkatesh et al., 2003), which is the aim of this research to examine the accountant's perspective.

According to Davis et al. (1989), Klaus & Changchit (2017), and Lee & Choeh (2016), earlier models for predicting individual acceptance of IT adoption had about 40% success rate. While, the UTAUT was both suitable for a broad range of groups, and about 70% accurate in predicting Technology Adoption (TA) among individuals (Marchewka & Kostiwa, 2007; Peek et al., 2014; Venkatesh et al., 2003), which is suitable for this research respondents as the accountants are over 20,000 in number.

The UTAUT theory includes four core variables that predict use intention by users', as per Venkatesh et al. (2003) those variables are EE, PE, SI, and FC. The relationships amongst the variables are moderated by four key factors Experience, Gender, Voluntariness of Use, and Age (Venkatesh et al., 2003). A Meta-analysis conducted by the researcher for previous studies that used the UTAUT framework and their findings is presented in Table 2.2 below. The original UTAUT theory framework as specified by Venkatesh et al. (2003) is shown in figure 2.4 below.

Table 2.2
Meta-Analysis of Studies Using UTAUT Framework

Source, Country and Theory.	Perspective	IV	DV	Moderator/ Mediating	Statistical Technique (Software)	Findings
1- (Venkatesh et al., 2003) (USA) (UTAUT)	User perspective	Performance Expectancy(PE) effort expectancy (EE) Social Influence(SI) Facilitating Conditions(FC)	Behavior Intention (BI) Use Behavior (UB)	Gender, Age, Experience, Voluntariness of use	Regression (SPSS) SEM (PLS)	PE → BI (+) EE → BI (+) SI→ BI (+) FC→UB (NOT) BI→ UB (+)
2- (Hariguna, 2017) (Indonesia) (UTAUT)	User perspective	Information System Quality (ISQ) Public Performance expectancy (PPE) Public Effort expectancy (PEE) Public Facilitating Conditions (PFC)	Information System Quality (ISQ) Performance Expectancy (PPE) Public Effort Expectancy (PEE)	ISQ-PPE-PBIG ISQ-PEE-PBIG	SEM (PLS) 2.0	PPE → PBIG (+) PEE → PBIG (+) PFC→ PBIG (+) ISQ → PBIG (+) ISQ → PPE (+) ISQ → PEE (+)

Table 2.2 (Continued)

			Public Behavioral Intention to Use e-government (PBIG)			
3- (Al-Shafi & Weerakkody, 2010) (Qatar) (UTAUT)	Citizen (users) perspective	Performance Expectancy(PE) effort expectancy (EE) Social Influence(SI) Facilitating Conditions(FC) Education Level (EDU)	Behavior Intention (BI) Use Behavior (UB)	Gender Age	Regression (SPSS)	PE→BI(Not) EE→BI(+) SI→BI(+) BI→UB(+) FC→UB(Not) EDU→ UB (Not)
4- (Witarsyah et al., 2017) (Indonesia) (UTAUT)	Citizen (users) perspective	Effort Expectancy (EE) Performance Expectancy (PE) Social Influence (SI) Facilitating Condition (FC)	Behavioral Intention (PBIG) Use behavior (CAS)	Information Quality (IQ) System Quality (SQ) Trust (T)	Bibliometric analysis	CAS→ PBIG (+) PE→ PBIG (+) EE→ PBIG (+) SI→ PBIG (+) T→ CAS (+)

Table 2.2 (Continued)

						IQ→ PE(+) SQ→ PE(+)
5- (Adulwahab & Dahalin, 2011) (Nigeria) (UTAUT)	Users perspective	Performance Expectancy (PE) Effort Expectancy (EE) Social Influence (SI) Management effectiveness (M.EF) Program Effectiveness (P.EF) Facilitating Condition (FC) Anxiety (ANX)	intention to use (BI) User acceptance (UA)	Gender Age Ethnicity Location	(SEM) (AMOS)	PE→ BI(+) EE→ BI(Not) SI→ BI(+) M.EF→ BI(-) P.EF→ BI(+) FC→UA(+) BI→UA(+)
6- (Wang & Shih, 2009) (Taiwan) (UTAUT)	Citizen (users) perspective	Performance Expectancy (PE) Effort Expectancy (EE) Social Influence (SI) Facilitating Condition (FC)	Intention to use (BI) User acceptance (UB)	Gender Age	SEM (AMOS)	PE→ BI(+) EE→ BI(+) SI→ BI(+) FC→UB(+) BI→AU(+)

Table 2.2 (Continued)

7- (AlAwadhi & Morris, 2008) (Kuwait) (UTAUT)	Students perspective	Performance Expectancy (PE) Effort Expectancy (EE) Peer Influence(PI) Facilitating Condition (FC)	Intention to use (BI) User acceptance (UB)	Gender, Academic Course, Internet Experience Mediating (BI)	Regression (SPSS)	PE→ BI(+) EE→ BI(+) PI→ BI(+) FC→UB(+) BI→UB(+)
8- (Rahman et al., 2011) (Malaysia) (UTAUT)	Students perspective	Information Quality (IQ) Effort Expectancy (EE) Performance Expectancy (PE) Service Quality (SQ)	Intention to Use (BI)	User Characteristics	SPSS (Version 16.0)	IQ → BI(+) PE→ BI(+) EE→ BI(+) SQ → BI(-)
9- (Maldonado, Khan, Moon, & Rho, 2011) (South American) (UTAUT)	Students perspective	E-learning motivation (ELM) Social Influence (SI) Facilitating Condition (FC)	Behavioral intention (BI) Use behavior (UB)	Region Gender	SEM (PLS)	ELM → BI(+) SI→ BI(+) FC→ UB(Not) BI→UB(+) UB→ ELM (+)

Table 2.2 (Continued)

10- (Al-Sobhi et al., 2011) (Saudi Arabia) (UTAUT)	Citizen (users) perspective	Performance Expectancy(PE) effort expectancy (EE) Social Influence(SI) Facilitating Conditions(FC) Trust of the Internet (TI) Trust of Intermediary (TOI)	Behavioral intention (BI) Use behavior (UB)		SPSS (Version 15.0)	PE→ BI(Not) EE→ BI(+) SI→BI(Not) BI→UB(Not) FC→UB(Not) TI→ UB(+) TOI→ UB(+)

**Note: (+) Refers to a significant effect, while (NOT) Refers to not significant effect.*

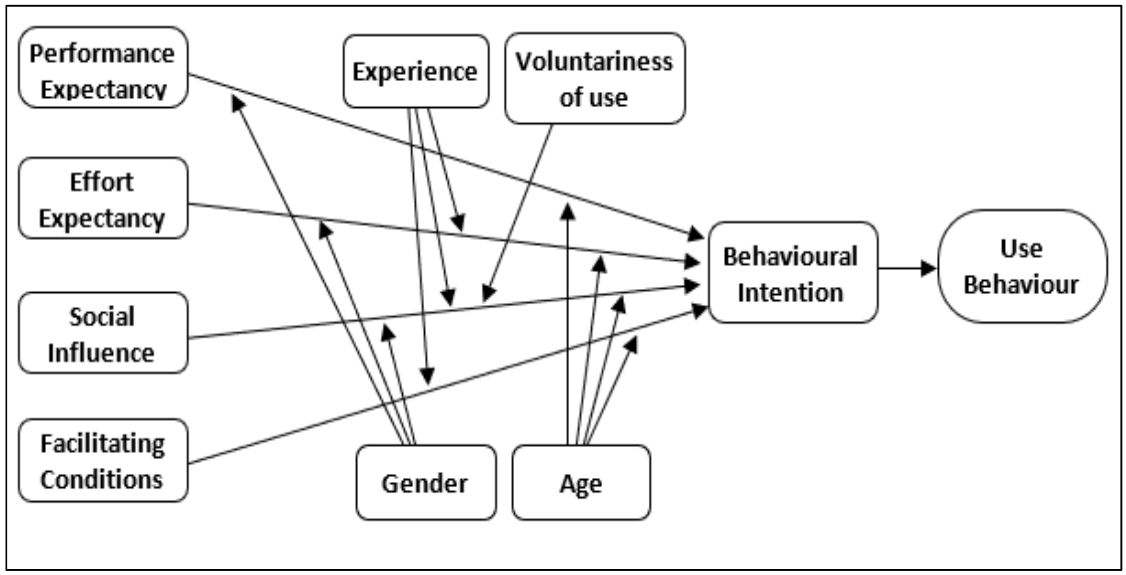


Figure 2.4
UTAUT Framework
Source: Venkatesh et al. (2003)

Straub, Keil, & Brenner (1997), Al-Gahtani, Hubona, & Wang (2007), Im, Hong, & Kang (2011), and Thomas, Singh, & Gaffar (2013) indicated that culture could affect the importance of the relationships among the constructs. Hence, each study model should be amended to suit the context of the study (AlAwadhi & Morris, 2008; Luqman, Razak, Ismail, & Alwi, 2016; Mishra, Maheswarappa, Maity, & Samu, 2018). In this study and according to AbuShanab & Pearson (2007), as this research is not testing the relationship between the IV's and user behaviour, however looking specifically at the adoption and not investigating usage behaviour the Use Behaviour can be omitted. Moreover, previous studies have reported that Age and Gender moderators are significant in most samples of developed countries but were found not significant in developing countries (AlAwadhi & Morris, 2008; Alshehri, Drew, & AlGhamdi, 2013; Birch & Irvine, 2009; Maldonado et al., 2011; Rahman et al., 2011; Venkatesh & Zhang, 2010), hence those can be eliminated.

On the other hand, Experience was changed to an Internet experience in Venkatesh's model (AlAwadhi & Morris, 2008). Al-Shafi & Weerakkody (2010) indicated that with the emerging e-government perception, the global services of the public had realised the value of upgrading their services to be available and further efficient. Also, residents became more intellect and experienced good with Internet and technology services. Moreover, since service of e-government are more likely to be run by experienced internet users (Alshehri, Drew, Alhussain, & Alghamdi, 2012), experience became a non-significant moderator (Agarwal & Prasad, 1999; Alshehri et al., 2013; Birch & Irvine, 2009; Jiang, Hsu, Klein, & Lin, 2000; Maldonado et al., 2011; Rahman et al., 2011). Finally, voluntariness was found to be insignificant regarding moderating the use of e-government services in developing nations (Alshehri et al., 2013). Also, given that the usage of e-government services are highly voluntary (AlAwadhi & Morris, 2008), voluntariness of use in UTAUT can also be omitted (Birch & Irvine, 2009; Maldonado et al., 2011).

Moreover, the variables have been developed under a stable-developed nation and in private sector in the USA, however, this research tests the variables PE, EE, and FC, and SI in the public sector and a conflict-developing nation. In summary, the UTAUT theory is adapted as an underpinning theory to investigate the acceptance of e-government service among accountants in Iraq.

2.5.1 Public Performance Expectancy

The confidence of a specific person that utilising an individual system can permit improved working interpretation is referred to as PE (Payne & Curtis, 2008). From five previous TA models, Venkatesh et al. (2003) stated that PE is the outcome from Perceived Usefulness in TAM, Outcome Expectations in SCT, Relative Advantage in

IDT, Job Fit in MPCU, and Extrinsic Motivation in MM. Moreover, for both voluntary and mandatory settings performance expectancy is a robust interpreter of the intention to use in the context of IT.

2.5.2 Public Facilitating Conditions

The perception of an individual that the technical and organisational infrastructure can aid in operating certain technological innovation (Payne & Curtis, 2008). Venkatesh et al. (2003) expressed this variable is also derived from three constructs in earlier models, namely Facilitating Conditions in MPCU, Compatibility in IDT, and Perceived Behaviour Control in TPB, thus indicating that the FC variable is a robust interpreter for the IT adoption.

2.5.3 Public Effort Expectancy

The ease to use indication perceived by a person from operating certain innovation reflects EE (Payne & Curtis, 2008). The EE variable is derived from three concepts from previously existing models, Venkatesh et al. (2003) stated those constructs are Complexity MPCU, Ease of Use IDT, and Perceived Ease of Use TAM/TAM2. As indicated by Venkatesh & Davis (2000) and Venkatesh et al. (2003) EE reflect a noteworthy impact on the user to IT adoption.

2.5.4 Social Influence

Witarsyah et al. (2017) defined SI as the individual's belief that other people find operating on a new and specific system is significantly essential for him/her to use. Generally, in various studies all over the world, SI has been studied as an influential variable of TA (Al-Shafi & Weerakkody, 2010; Rahman et al., 2011; Venkatesh et al., 2003). Venkatesh et al. (2003) state that SI affects the intention to use robustly, the

more the individual senses that the surrounding individuals consider the reception of e-government is essential, it in turn upsurge the person's e-government adoption.

2.5.5 Information System Quality

The relation between public organisations and citizens has shifted along with technological development, increased responsiveness of the government and citizens empowerment has been granted by the improved technological innovations (Alshehri & Drew, 2010; Ritchi et al., 2016). Timely and reliable information related to public finances became more forthcoming as more governments tend to use technological instrument associated with the Internet such as e-government (Linders, 2012). With natural everyday interaction, government agencies allowed the public the ability to continuously assess the government's financial information, which in turn, improved responsiveness to the public, permitted financial accountability, increased demands, better service delivery, and resulted in government openness. Therefore, determining whether public organisations are aware that placing financial information on their websites is of great importance and that it aids the decision-making processes (Ritchi et al., 2016; Bolivar et al., 2007).

The ISQ discussed in this research signifies the quality of the financial reporting outcome which indicates the financial statements and the system quality. Where Biddle et al. (2009), and Rosdini & Ritchi (2017) indicated that ISQ is a mixture of system quality and information quality concept, and this variable is considered important in increasing the public satisfaction regarding the e-government services. Biddle et al. (2009) stated the financial reporting intention is to offer and deliver high-quality and valuable financial information concerning economic entities, for the end users, that information is useful for financial decision making. Indirect attributes have been

focused on by numerous researchers with the intention of measuring the financial reporting quality; those attributes are alleged to stimulate financial reports quality, for instance, the timeliness, earnings management, and financial restatements (Beest, Braam, & Boelens, 2009; Costello & Moerman, 2011; Guay et al., 2016; Hariguna, 2017; Kimani, Mouni, Wanjau, & Mungatu, 2015).

With regards to the financial statement quality, Belkaoui (2004) and Palea (2014) stated that the financial statement qualitative characteristics must hinge upon the statements users' requirements. Moreover, Palea (2014) further elaborated that information should be as free as possible to all users in an equal manner free from any preferences for a particular party. Users should not merely understand the statements offered data during the decision process. However, they ought to have the ability to evaluate how reliable is the information, along with having the skills to conducts a comparison with other information to assess the most valuable opportunity. For the financial statement of government to achieve its purpose by having high quality, according to Ritchi et al. (2016) based on *Standard Akuntansi Pemerintahan* (SAP) and the government regulation No. 71/2010, those report should have these characteristics Relevance, Faithful Representation, Comparability, and Understand-ability.

The market competition is naturally dynamic; it works as an indicator of improving the performance of organisations must be analysed and measured (Ritchi et al., 2016; Palea, 2014). According to Slatkevičienė (2001), the performance itself can be measured in terms of Total Quality Management (TQM), business strategy, finance, manufacturing, and HR. The concept of measuring the performance is linked with management accounting, where supplying management with knowledge through

information is its primary objective to create value. Moreover, the TQM is concerned with measuring and assessing the quality of the firm (Kundeliene, 2010; Slatkevičienė, 2001). Furthermore, Kundeliene (2010) indicated that quality is interpreted in the organisation as the goal to obtain pleasing results from the viewpoints of owners, personnel, and society.

After the TQM philosophy ultimate formation, the concept of quality varied from targeting to fit standards, into satisfying the customers and user's needs. Meaning that fulfilling the customer requirements to obtain their satisfaction became the modern-day goal (Sharma & Crossler, 2014). Mostly researchers measured customers' satisfaction by using rating scales – Likert scales, Fink (2012) elaborated that every respondent is questioned to specify agreement or disagreement in a scale of five-point to all question related to the examination aim. On the other hand, Accounting quality is quantified by atypical operation metrics for growth; the high fluctuating result is an indicator of abnormal deviations in the operating cash flow and earnings (Bharath, Sunder, & Sunder, 2008).

The level of disclosure is measured regarding favourableness of information; there is a greater incentive to disclose when there is a positive influence on the share price. Conversely, the higher the costs, then the firm value will decrease, leading to a greater incentive not to disclose (Scott, 1994). Former IS literature studied the perceived benefits for preparers of information and perceived satisfaction for users who had a substantial effect on the intention to use innovation (Dickinger, Arami, & Meyer, 2008; Venkatesh et al., 2003). Generally, if the discloser is proven to be useful, then the intention to disclose more information is high. Likewise, users satisfaction positively influences the usefulness of technology perception (Liaw & Huang, 2003;

Liu & Li, 2011). As a result, if the user's perceived satisfaction is high, then it will lead to an important and positive influence on the perceived usefulness to the preparers (Sharma & Crossler, 2014).

2.5.6 Regulation Support

Technology adoption is influenced by some of the variables in the external environment, for instance, government control and data force. Kuan & Chau (2001) defined the governmental Regulation Support (RS) as *"A term that infers the level of help accomplished from the authorities of a nation, the primary motivation behind this help is to persuade expanding levels in the appropriation of any IS innovation"*. The most common incentive that governments adopt to encourage IS innovation adoption among administrations, is providing a protective shield for organisations that advance the selected technology (Kuan & Chau, 2001; Oliveira & Martins, 2011; Zhu et al., 2006; Zhu & Kraemer, 2005). Regulations are set to ensure improved working structure and make the appointment technique less challenging and pass on the best approval, the successful appointment of technology can depict an advantageous result (Ali, Soar, Clymont, Yong, & Biswas, 2015; Kuan & Chau, 2001; Oliveira & Martins, 2011; Zhu et al., 2006; Zhu & Kraemer, 2005).

Similarly, Ali et al., (2015) indicated that remote access has a significant association with the viable IS adoption. In the legislative setting certain variables influence the TA and economy, those variables are Rule of Law, Administrative Quality, Control of Corruption, and Political Stability as indicated by Katarzyna (2016). It is worth mentioning that Katarzyna (2016) study's outcomes propose that authorities should conduct intellect strategies to encourage the business organisations to approach technology utilisation, for instance, more financing apportioned, and more

highlighting efforts are vital on generating adequate programs. Nugroho (2015) argued that Lack of regulation support (RS) and mandatory use could be the reason for non-efficient adoption, as RS plays a vital role in innovation adoption as a moderator. On the contrast of voluntary use, mandatory adoption of innovation is considered the main driver behind adoption (Kuan & Chau, 2001; Oliveira & Martins, 2011; Zhu, et al., 2006; Zhu & Kraemer, 2005). Due to compelling compliance, the effectiveness of mandatory approach in enhancing actions is thought to be higher. However, if enforcement is lax and not taking regulations seriously the effectiveness will be weakened (Kimani, et al., 2015; May, 2005; Tariq & Mat, 2017).

Across the European Internal Market and the Lisbon Strategy brought up a deregulation tactic, where based on the strategy discarding of principles and controls is alleged to decrease the regulatory obstructions and bureaucratic debilitations to facilitate better capital and innovation access (Kim et al., 2016). This, in turn, facilitates the quality of developments when compared with the unvarying views of organisations rivalry (Wysokińska, 2012). Former RS scholars reveal this variable role as a moderator across numerous studies. Numerous scholar-researchers for instance, Ramanathan, Ramanathan & Ko (2014), Kim et al. (2016), Kimani, Mouni, Wanjau, & Mung'atu (2015), Tariq & Mat (2017), and Obaji et al. (2015) have examined and tested RS as a moderator across different contexts, their results indicate that this factor indeed plays a significant role as a moderator.

Because of the contradictions across various research results and amongst authors points of view regarding the importance of regulation support, it is therefore vital to further inspect the RS variable. Moreover, these tests and examinations took place in stable and developed nations (external environment has no conflicts) unlike the

contextual environment in this study (a conflict and corrupt environment). Consequently, two questions ascend, first, is RS indeed a vital moderator for TA? Moreover, the second, will importance and effect of RS differ under the new contextual environment and instability such as war or civil conflict in a country?, besides, Naheb et al. (2017) illustrated the significance of further studies regarding e-government in Arab republics must be directed. Consequently, Iraq represents the case study to undertake this matter.

2.6 General Information About Iraq

Iraq nearly covers the same zone from old Mesopotamia, which is located between the Tigress and the Euphrates Rivers. Iraq was considered an early civilisation centre, where many cultures and settlements rose and fell on its total land area of 437,072 sq.km. The border of Iraq is surrounded by Syria Jordan, Saudi Arabia, Kuwait, Turkey, and Iran the main religion in the Republic of Iraq is Islam it represents nearly 95% of the total population amounting to 28, 221,180 in 2017 (Peter, 2017). Most of the citizens are identified with Arab as their nationality, Arab is considered the most extensive group inhabiting Iraq, located at Baghdad the centre of Iraq and capital city, along with the surrounding provinces from the middle to the south of the republic (Faaeq, 2014; Peter, 2017).

The Kurds are the second-prime cultural group with a politically autonomous settlement they are located in the northern mountain valleys of Iraq. The Kurds inhabit the provinces of Erbil, Dahuk, and Al-Sulaymaniyah those three provinces are commonly named as the Kurdistan Region. Iraq contains a variety of other racial and cultural groups, such as Turkmen, Assyrian, and many other minorities. Recently, the security level of the country has been on the decreasing trend due to the pervading

conflict, violence and social-political instability characterised by a high rate of corruption (Faaeq, 2014; Kadhim, 2010; Peter, 2017).

2.7 Conflict in Iraq

Heidelberg Institute for International Conflict Research (HIIK) conducted a report for conflict barometer and defined conflict as the clash of welfares over national issues between at least two parties happening within a particular duration (Fingar, 2009; Khan, 2010; Khan et al., 2012; Khan, Moon, Zo, & Rho, 2010). According to HIIK (2014), two opposing rivals chasing their interests and doggedly achieve their goals is identified as conflict. Several paradigms have been adopted to define conflicts by Deutsch (1990), based on the levels identified for exiting conflict in society, Iraq is characterised with a high rate of increase in different forms of violence and civil conflicts happening (Faaeq, 2014).

Different dimension of civil crisis said to exist in some of the countries across the world such as Afghanistan, Burma, Philippine, Sri Lanka, Somalia, Mexico, Nigeria, Iran, Colombia, Congo, Iraq, and India (HIIK, 2014; Khan, 2010; Khan et al., 2012, 2010). According to a survey conducted by the HIIK, it was estimated on a global stage that 345 conflicts were recorded with different circumstances of both intrastate and interstate, while the civil crisis is accounted mostly for the intrastate disputes (HIIK, 2014). Table 2.2 below highlights the dispute intensity.

Table 2.3
Conflicts Intensities by Levels

State of Violence	Intensity Group	Level of Intensity	Name of Intensity	Definition
Violent	High	5	War	*"A war is a violent conflict in which violent force is used with a certain continuity in an organised and systematic way. The conflict parties exercise extensive measures, depending on the situation. The extent of destruction is massive and of long duration"*
		4	Severe Crisis	*"A conflict is considered to be a severe crisis if violent force is used repeatedly in an organised way"*
	Medium	3	Crisis	*"A crisis is a tense situation in which at least one of the parties uses violent force in sporadic incidents"*
Non-violent		2	Manifest Conflict	*"A manifest conflict includes the use of measures that are located in the stage preliminary to violent force. This includes, for example, verbal pressure, threatening explicitly with violence, or the imposition of economic sanctions"*
	Low	1	Latent Conflict	*"A positional difference over definable values of national meaning is considered to be a latent conflict if demands are articulated by one of the parties and perceived by the other as such"*

Source: Heidelberg Institute for International Conflict Research (HIIK), 2014

The Iraqi environment based on the table above lies under the fifth level of conflict intensity from the year 2014 to 2016, where citizens were affected by crimes against humanity, war crimes, or slaughter conveyed by a group of terrorist individuals known as the Islamic State of Iraq and Syria (ISIS) (Nichols, 2017). Different parties used

massive military operations in conducting violent acts pursuing their own political needs (Fearon, 2007), presently the Iraqi environment has descended into a civil conflict which classifies under the fourth level (Trevithick, 2017).

Previous researchers showed citizens' trust in government could be altered by the environment, along with e-government services usefulness (Faaeq, 2014; Lee et al., 2003). Therefore, high and low terrorism risk situations (i.e., diverse situations) in Iraq triggered by war should be the focus point (Chaffey & White, 2005; Kochanova, Hasnain, & Larson, 2017; Kumar et al., 2007; Thomas et al., 2013). Government and citizens confront to an increased risk of terrorism in the surrounding environment impose a threat to the services, thus emphasising urgent efforts for conducting researches to guarantee reliable, effective, and efficient e-government services during unstable situations (Chaffey & White, 2005; Kochanova et al. , 2017). Thus, this examination is trusted to be an improvement step to comprehend a broader understanding of e-government usage determinants among citizens and employees driven by the surrounding open crisis, along with the effects of ISQ and the progression of RS on the services of e-government.

2.7.1 The e-government Service Stage in Iraq

Building the first e-government venture personally designed for Iraq started during the year 2003, this venture was initiated to take place among world ICT society as it was a corporation amongst the Iraqi federal government and the Italian government (Martinus et al., 2007). An Understanding Memorandum had been signed by both the Iraqi and Italian ministers of science and innovation technology. Both ministers signed the pledge offered by the Italian government stating that monetary aid and specialised

individuals will be sent to assist in the development of an intranet amid the Iraqi ministries and fabricate an e-government venture (Faaeq, 2014).

Matloob (2008) elaborated that the intranet venture by the government represents the preliminary step for a proficient e-government platform advancement, with the capability of helping the Republic infrastructure renovation. In the year 2010, the Iraqi government influenced e-government to wander whereby the five most services ministers would interface with the head manager's office (Abdul-Alrahman, 2011). Moreover, in 2011 the executives of e-government in Iraq made a second joined venture with the United Nations Development Program (UNDP) to study the endeavour and to create new arrangements for this service development. The UNDP started by preparing 200 Iraqi mentors specialised with e-government guidance, the objective of those mentors is to spread education regarding e-government across states all over Iraq and prepare 10,000 teachers as the end goal (Abdul-Alrahman, 2011).

The Iraqi Prime Minister additionally supported a gathering of e-government awareness in 2012 known as e-Iraq, more than 300 individuals and many UNDP staff attended despite the present circumstances (Mohammed et al., 2013). In 2014 the second gathering of e-government was initiated with the name "*Computerized nearby areas: the extension to the future*" (Mohammed et al., 2016). Additionally, Mohammed et al. (2016) indicated that the Iraqi e-government has numerous vital accomplishments and activities that are boosting the doorway of Iraq portal which is known ad e-Iraq Portal as shown in figure 2.5 below.

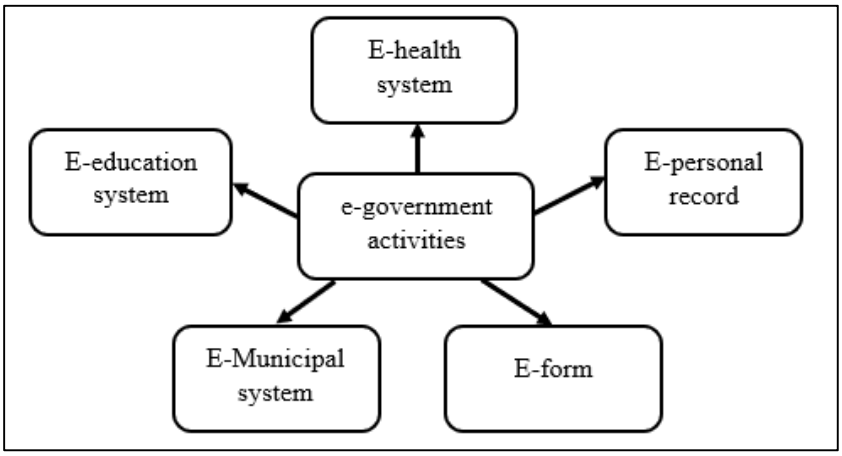


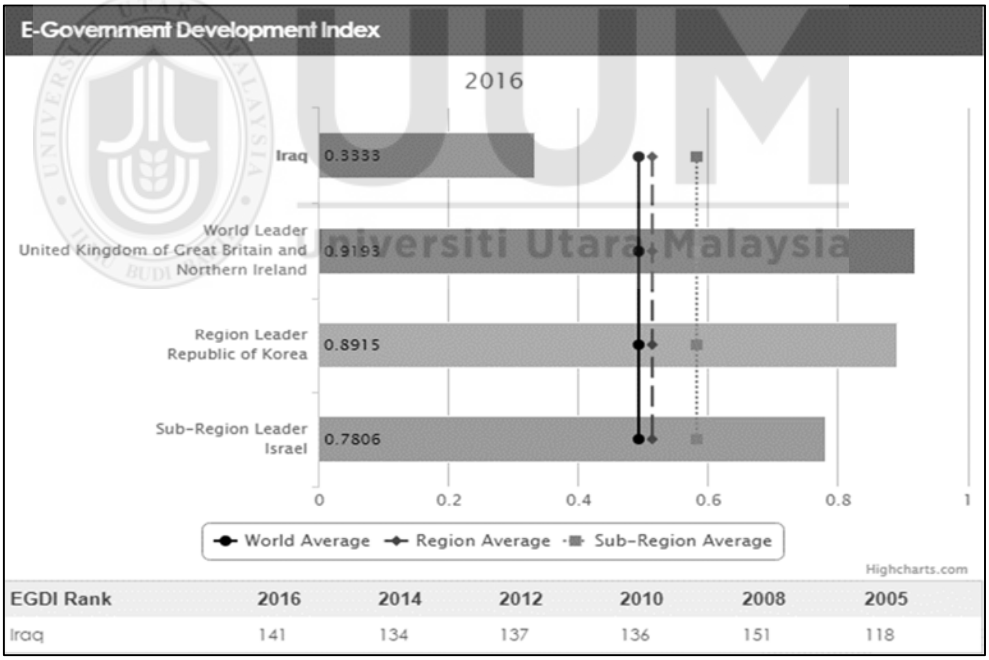
Figure 2.5
The e-government Activities

An Iraqi website is known as IRAQ e-government Portal is initiated for the primary purpose of assisting people and corporations, this portal offers information's that can be requested, dialogue settings, and many other facilities, it also encompasses several ministries connected to the website (Al-Zuabi & Mahmud, 2011). This portal enables individuals by using the internet to have access to those services, regardless of the citizen location (i.e. is resident in Iraq or abroad), the Iraqi e-government portal main webpage is shown in Appendix A1 and A2. Appendix B1 shows the second portal of e-government designed especially for collecting complains of citizens and requests tracking, which comprehend the feature of submitting and follow up to keep track of requests or complains, this portal is only provided in Arabic language, and the website has no translation feature. Therefore the researcher did a translation to this webpage in English language for foreign individuals as shown in Appendix B2.

The federal government of Iraq has been providing much attention and efforts to improve the e-government system for providing enhanced e-services to the citizens and corporations (Mohammed et al., 2016). Notwithstanding the presence of e-government in Iraq on the Internet under the e-citizen portal accessed from

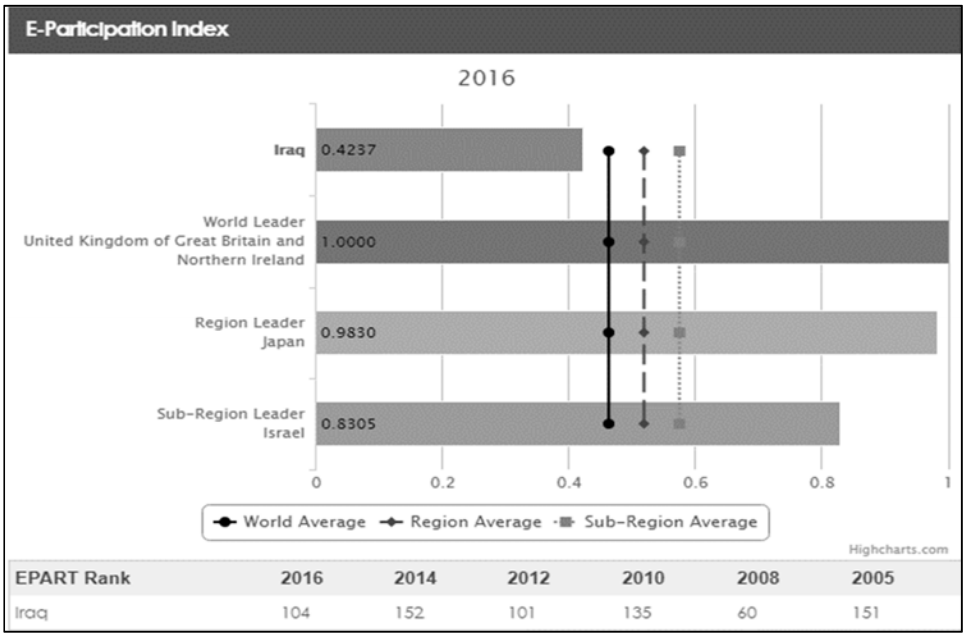
(http://www.egov.gov.iq), and the existence of 52 ministries that are connected, yet e-government lags behind regarding dominant and genuinely useful existence (Azeez, 2014).

The portal provides the ability to find information, procedures inquiries, with the possibility of forms downloading, however only in a restricted way. Unfortunately, the portal is not compatible with the global efficiency level, where some of the services are not active and do not interact with users (Azeez, 2014; Shareef, 2012). As indicated by the latest United Nations report, on the index of e-government advancement in the world the Iraqi e-government ranked 141 over an aggregate of 193 (EGOVKB, 2016), as shown in figures 2.6 and 2.7.



EGDI Rank	2016	2014	2012	2010	2008	2005
Iraq	141	134	137	136	151	118

Figure 2.6
The e-government Development Index (EGDI)
Source: UN E-government Knowledge Data Base 2016



EPART Rank	2016	2014	2012	2010	2008	2005
Iraq	104	152	101	135	60	151

Figure 2.7
E-Participant Index (EPART)
Source: UN E-government Knowledge Data Base 2016

All in all, Iraq's administration needs additional effort to enhance the administration, as many researchers emphasised the need for the public-sector's e-services to be strengthened. Iraqi e-government has numerous challenges with constructing an adequate foundation in light of the present issues, for example, corruption and instability (Azeez, 2014; Mohammed Abdulameer Mohammed et al., 2016; Shareef, 2012). Also, for the public service to be successful altering and improving the mindset and the plan of action employee follow in organisations while communicating with citizens is crucial, for instance, the availability of a help desk. Also, Mohammed et al. (2016) further indicated that there is a lack of research to settle a solution for Iraqi e-government ventures.

2.7.2 Challenges of e-government in Iraq

A strategy has been set that included the years 2007-2010 by the association between the Iraqi Ministry of Science and Technology and the United States Agency for International Development (USAID), the strategic purpose is to advance the Iraqi e-government project. However, promoting with sponsorship and the high support level is the sole chance for the e-government strategy success (Martinus et al., 2007). The government aims to integrate facilities to provide better opportunities for the public.

Nevertheless, quite a few obstacles still exist during the development and the implementation process. The process provided isn't well-suited to the model of governance in Iraq, due to various reasons including resources, infrastructure, and people (Al-Azawei, Parslow, & Lundqvist, 2016; Al-Dabbagh, 2011). Numerous researchers identified some of the challenges in Iraq, few of those researchers are Al-Azawei et al. (2016), Al-Dabbagh (2011), Chandrasekhar (2007), Faaeq (2014), Hassan (2016), and Heeks (2005). A summary of some identified issues by those researchers is summarised and represented in figure 2.8 below.

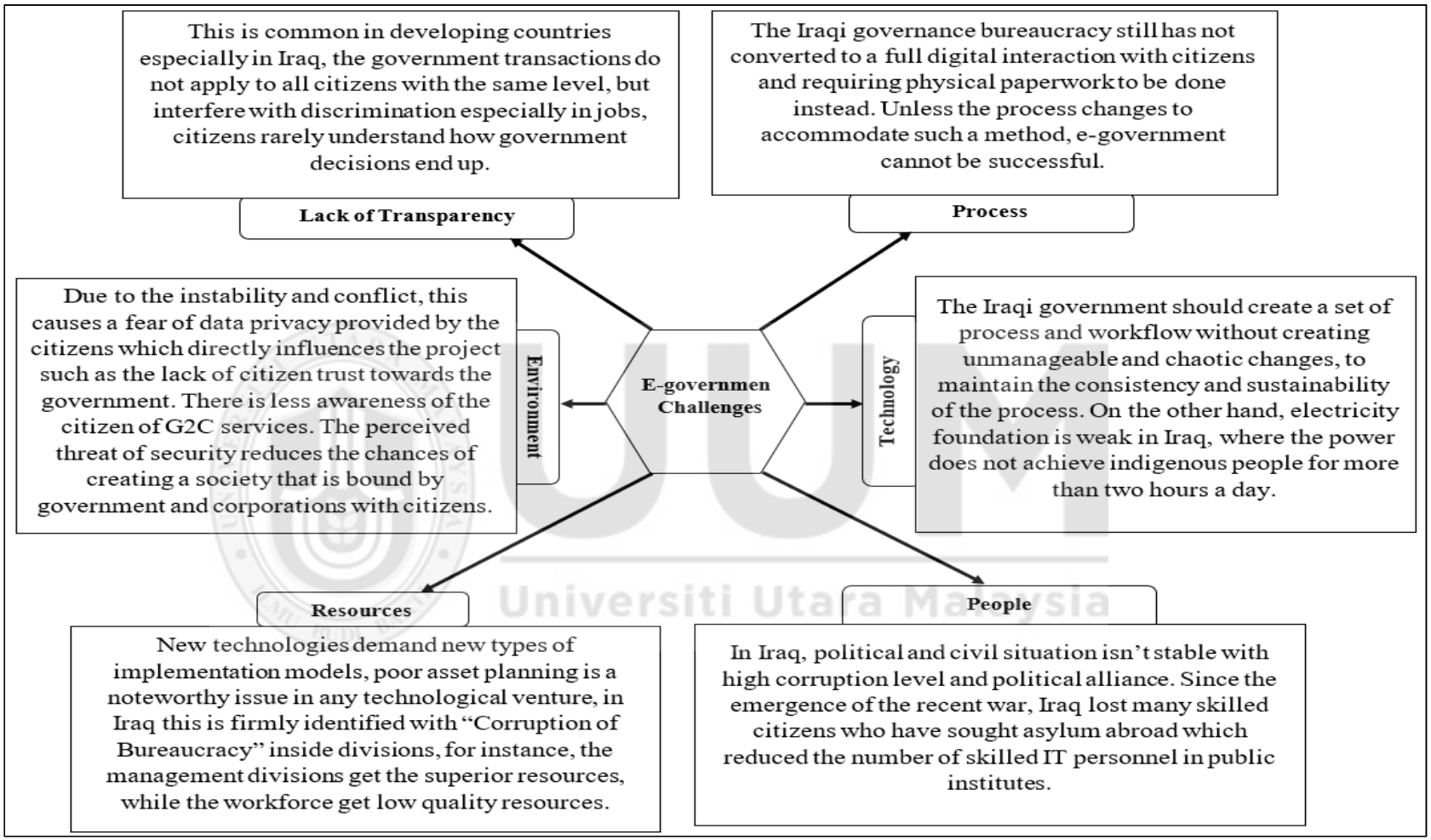


Figure 2.8
Challenges of e-government in Iraq

According to Mohammed et al. (2013), the individual challenge is representing the difficulties that employees in the governmental organisations face; further elaborations indicate that the employees in the organisation are an important item because the e-government is based on their usage. Individuals play a vital role to manage the e-government usage for providing e-services to the citizen. When the staff knows the benefits of using e-government, this further stimulates their usage intention (Al-Azawei et al., 2016; Al-Sammarraie, Faieq, & Al-Qasa, 2016; Hassan, 2016). Moreover, Abdul-Alrahman (2011) indicate that the ability to use the technology and IT skill knowledge can play an essential role in applying e-government or succeed in this project in the government sector.

2.8 Chapter Summary

This chapter elaborates some theories and models related to technology acceptance, especially that of information systems. Additionally, this chapter gives a detailed summary of PPE, PEE, PSI, PFC, ISQ, RS, and its antecedent to effect E-GA. Overall, past e-government investigations were conducted in developed nations, consequently, regarding the e-government present condition in developing nations and its effect on benefit conveyance little is perceived.

Regarding the UTAUT theory measure for e-government adoption the variables PPE, PEE, PSI, and PFC are used, where the variables PPE and PEE has contradicting findings. Furthermore, previous researchers added ISQ factor measured by financial statement quality as an effective factor. Therefore, this research aims for exploring the effect of these variables, along with theory expansion through the inclusion of RS as a moderator under the contextually different environment.

The irregularity in finding concerning the viability of elements, the absence of research in developing nations, neither less the conflict conditions, for example, the event of a war that could modify the development selection. Lastly, the gap of successful e-government implementation in Iraq has propelled the researcher into leading this research to assess factors viability under the new conditions from an alternate point of view than adopted by past researchers which is the viewpoint of accountants. Accountants point of view is vital to be analysed in this examination to feature the impact of RS in aiding the associations and accomplish compelling selection and usage of e-government, and also expand the knowledge information base by investigating new e-government users' viewpoint.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter offers a thorough explanation of the research framework to determine the interactions amongst the research variables of this research. The framework was developed based on the previous literature related to the field and innovation usage with the aim of drawing inferences and possible adoption of certain variables for this research. The research is based on the theories that are deemed from a solid theoretical background. Then, this chapter discusses the development of the research hypotheses and the measurements of the variables were discussed in detail. Moreover, the chapter also explains the research design and sampling method using the purposive sampling. In the same track, this chapter discusses the questionnaire design, pilot study, data collection, research instrument, instrument design, and the analysis method.

3.2 Theoretical Framework

A hypothetical framework is an accumulation of interrelated ideas that prompt the exploration studies, figuring out what things will be estimated and what connections will be required from the information (Bello & Ufuah, 2018). Also, a hypothetical framework is a portrayal of the real world; it clarifies the points of significance for the variables which the researcher considers to be important in the issues being examined and elucidates the critical connection among them (Nachmias, 2000; Schunk & Zimmerman, 2012). The UTAUT is a model built by Venkatesh et al. (2003) to measure the information technology performance, that takes into consideration the user's perspective. According to Venkatesh et al. (2003), and based on the UTAUT

theory, the technology adoption can be measured by three antecedent's SI, PE, and EE, and influenced by FC.

In this research, the UTAUT framework had been extended and added the ISQ factor that Hariguna (2017) and Ritchi et al. (2016) suggested affecting the e-government adoption. Then this research extended the model and added a moderator factor that might affect the e-government adoption, which is the regulation support from the government as shown in figure 3.1. According to Hariguna (2017), the word Public intends to measure perceptions and participation of the public to use e-government service. This research aim to improve public access to e-government services across all stakeholders such as customers, employees, and citizens. Hence, the word public has been extended to the factors to represent the public access to e-government to provide sustainability and serve the needs of the public (Hariguna, 2017; Hariguna, et al., 2017).

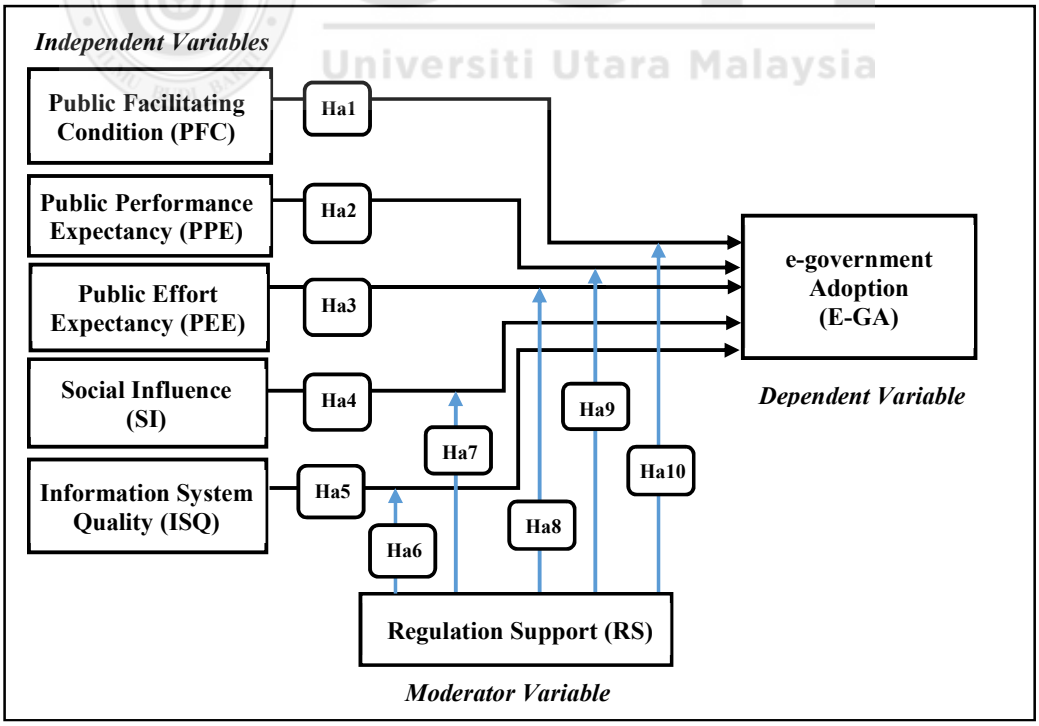


Figure 3.1
Conceptual Framework

3.3 Hypotheses Development

This section aims to develop the research related hypothesis; these hypotheses are conducted to fulfil the purpose of the study in accordance with the research framework.

3.3.1 Independent Variable

3.3.1.1 Public Facilitating Conditions (PFC)

The PFC denotes the beliefs of an individual that existing technical abilities and the infrastructure can support the system use (Venkatesh et al., 2003). In other words, it refers to the environmental restraints or the resources available that society remarks as important to the use of a system (such as e-government). The readiness of technical support to aid citizens with any trouble or issue that could affect them can lead to higher satisfaction of the citizens (Alshehri, 2012). In the e-government context, PFC refers to beliefs of an individual that existing e-government system has a technical team and helpdesk support with decent infrastructure (Al Mansoori, 2017). According to Venkatesh et al. (2012), the more users obtain knowledge about the resources available and support level provided, the more their willingness to practice the new technology increase, and therefore the researcher proposes the following hypothesis:

Ha1: Public Facilitating Conditions have a significant impact on e-government adoption.

3.3.1.2 Public Performance Expectancy (PPE)

The PPE aims for capturing the users' perceptions of the degree to which practising a specific innovation can support them in achieving desired goals (Venkatesh et al., 2012). In the e-government context, this stands for the extent to which individuals

perceive e-government value or potential use (Alrawashdeh, 2011). Al-Mansoori (2017) further elaborated that citizen remarks using e-government services as more effective in terms of reduced effort, speed, and cost, along with the facility to quickly contact a governmental entity. Venkatesh et al. (2003) highlighted that performance expectancy as a robust predictor of behavioural intention to usage. Therefore, the researcher proposed the following hypothesis:

Ha2: Public performance expectancy has a significant Impact on e-government adoption.

3.3.1.3 Public Effort Expectancy (PEE)

The PEE is the level to which using a certain system can be deemed as easy by individuals (Thompson, Higgins, & Howell, 1991). It is considered a governmental built effort to serve the community, such as e-government that is formed to ease the usage of public services (Venkatesh et al., 2003). Al Mansoori (2017) stated that PEE plays a vital role in simplifying technology acceptance. In e-government context it is the perception of individuals that using the e-government service is easy (Alshehri, 2012). Venkatesh & Davis (2000) indicated that effort expectancy has a remarkable effect on the behavioural intention for users toward the adoption of technology. Therefore, the researcher proposed the following hypothesis:

Ha3: Public Effort Expectancy have a significant impact on e-government adoption.

3.3.1.4 Social Influence (SI)

The SI is the level that individual beliefs other individuals consider utilising the innovation vital to him/her in, people's behaviour is affected by the way in which they

believe others are important to them and think that certain actions should or should not be followed (Chiu & Wang, 2008). In the e-government context, SI refers to an individual's confidence and willingness to use e-government services instead of regular services because friends or family members are using this service (Al Mansoori, 2017). Venkatesh et al. (2003) stated that social influence affects the behavioural intention vitally. Therefore the researcher proposed the following hypothesis:

Ha4: Social Influence has a significant impact on e-government adoption.

3.3.1.5 Information System Quality (ISQ)

ISQ is a mixture of system quality and information quality concept. The ISQ is considered important in growing public satisfaction regarding e-government services higher (Biddle et al., 2009; Rosdini & Ritchi, 2017). As discovered in the IS literature, perceived benefits for preparers of information and perceived satisfaction for users had a significant impact on the behavioural intention to use innovation (Dickinger et al., 2008; Venkatesh et al., 2003). According to Hariguna et al. (2017), the public satisfaction of e-government services can be increased by ISQ, where it can influence the sustainability of e-government use. Better satisfaction with e-government services is obtained from better ISQ (Hariguna, 2017). Therefore, the researcher proposes the following hypothesis:

Ha5: Information System Quality have a significant impact on e-government adoption.

3.3.2 Moderator Variable: Regulation Support (RS)

Regulations are generally formulated to ensure improved system and make the process for the adoption easier and carry the most positive value (Chen, Kuan, Lee, & Huang, 2011). Adequate and appropriate adoption of regulations can depict a positive effect. Also, the effective implementation of IS innovation adoption is highly associated with remote access (Ali, Soar, Clymont, Yong, & Biswas, 2015). Therefore the researcher proposes the following hypotheses:

Ha6: The Regulation Support significantly moderates the relationship between Information System Quality and e-government adoption.

Ha7: The Regulation Support significantly moderates the relationship between Social Influence and e-government adoption.

Ha8: The Regulation Support significantly moderates the relationship between Public Effort Expectancy and e-government adoption.

Ha9: The Regulation Support significantly moderates the relationship between Public Performance Expectancy and e-government adoption.

Ha10: The Regulation Support significantly moderates the relationship between Public Facilitating Conditions and e-government adoption.

3.3.3 Dependent Variable: E-government Adoption (E-GA)

This research aims to study the factors affecting e-government adoption and success in Iraq according to the UTAUT theory, from the perspective of accountants. The UTAUT focus is on using technology, and it mainly consists of four key constructs performance expectancy (PE), facilitating condition (FC), effort expectancy (EE), and

social influences (SI) (Venkatesh et al., 2003). As the UTAUT consider the intention to use as an influencing factor that leads to the actual usage eventually (Al-Qeisi, 2009; Elli, 2012). Generally based on the Information Systems (IS) literature, researchers express that Adoption implies a transfer to a new system from the old system in the institution (Dodson, 2011).

Both actual Adoption and the Intention to adopt have the same meaning (Martinus et al., 2007). However, Ajzen (1991) and Venkatesh et al. (2003) expressed that Intention to adopt is the most suitable term to predict the adoption of new technological innovation. Furthermore, Foxall, Leek, & Maddock, (1998) specified that intention for adopting a new innovation is linked with innovativeness of consumers', which is defined as "*Their tendency to buy new products in a particular product category soon after they appear in the market and relatively earlier than most other consumers"*. Therefore, for the fact that Iraq had already adopted the e-government since 2003 (Martinus et al., 2007), studying e-government adoption instead of intention is more appropriate. Figure 3.1 shows the interrelations of the research model.

3.4 Research Design

The research design is mostly dependent on the strategic plan that comprises methods and procedures of data collection and analysis about a defined population in an attempt to find a solution to the problem statement (Sekaran & Bougie, 2016). The present study aims to examine the causal relationships among the antecedents PPE, PEE, SI, PFC, ISQ, and RS, to E-GA in proposing a solution to the issues being faced by Iraqi e-government services.

It was recommended by Sekaran & Bougie (2016) and Zikmund, Babin, Carr, & Griffin (2013) that in order to determine the solution to the problem statement, it is important that the unit of analysis from which the response is planned to be obtained must be first identified, the unit of analysis may comprise an individual or an organisation (Zikmund, Babin, Carr, & Griffin, 2013). In the context of the present study, individuals (Accountants) are considered the unit of analysis as they are individual users that can use e-government service (Alves, 2017; Appelbaum et al., 2017; Barac, 2009; Elsheikh et al., 2008). More importantly, accountants in public administrations are requested to give their opinion concerning e-government services in an unstable environment. Consequently, considering the accountants as the unit of analysis in the present study is consistent with its objectives and also significant to look at the perspective of the frequent users of the system in the country.

3.5 Operational Definition

This part of the research shows the operational definition of the essential terms in the research; those definitions are shown in table 3.1.

Table 3.1
Operational Definition

Variable/ Source	Definition / Source
Public Performance Expectancy (PPE) (Alrawashdeh, 2011)	The perception of a person regarding assistance obtained from computerised system use in levelling up the job performance.
Public Effort Expectancy (PEE) (Thompson et al., 1991)	The level of effortlessness accompanying use of a particular technology.
Public Facilitating Conditions (PFC) (Venkatesh et al., 2003)	The perception of a person's regarding the availability of both technical and administrative and their ability to support system use.

Social influence (SI) (Al Mansoori, 2017)	An individual's confidence and willingness to use e-government services instead of regular services because friends or family members are using this service.
Information System Quality (ISQ) (Biddle et al., 2009)	a mixture of system quality and information quality concept and it is considered important in growing public satisfaction.
Regulation Support (RS) (Chen et al., 2011)	The support level to convince the public in adopting any technological innovation obtained from the government of a nation.
e-government (Muñoz, López, Amaral, Herguera, & Valarezo, 2018)	Use of the Internet with any devices for electronic communications to provide services to the country residents.
e-government adoption (E-GA) (Teo, et al., 2008)	The willingness of user's in adopting and operating any modern technology such as e-government.

3.6 Population, Sample Method, and Sample Size.

This section of the research discusses the targeted population in this research along with the sampling method, and the final sample size obtained in this research.

3.6.1 The Population of the Study

This study is applied to the e-government services setting, which involves the employees of the public administrations, who are daily users of e-government services (Alves, 2017; Appelbaum et al., 2017; Barac, 2009; Elsheikh et al., 2008). The primary respondents in this research are the public administration's Accountants, who could be using the e-government as an IS facility in Iraq. Moreover, administrations' employees (Accountants) were selected due to the following reasons:

3.6.1.1 According to the Ministry of Higher Education and Scientific Research (MOHE, 2011), the public universities are distributed geographically in all regions of

the Republic of Iraq. Therefore, citizens with an accounting degree are also distributed in the three central areas of Iraq North, Middle, and South.

3.6.1.2 By using the accounting committees as the sampling frame, the population list of the members is readily available. Thus, this ensured the right sampling selection.

3.6.1.3 Public administration accountants earn a salary, and they have a significant opportunity to purchase a computer and Internet access point. Thus, they could use e-government services.

3.6.1.4 Since public administration accountants can be daily users of government system; they could be familiar with the pros and cons of the government system. Thus, their point of view is highly essential.

3.6.1.5 Previous research in Iraq focused on citizen perspective but the e-government service up until 2016 lags behind compared to global ranking despite the research and effort of the government to improve this service. Accountants represent employees who could be operating with e-government on a daily basis. Therefore, their perspective of e-government services in Iraq represent a more comprehensive view of employees operating with e-government, and hence it is essential to be examined.

3.6.2 Sampling Method

Gathering information is vital for an examination, as the information is intended to add to a superior comprehension of a hypothetical framework (Faaeq, 2014). The purposive sampling procedure is one sort of sampling techniques (non-probability), this kind is considered as superior to other forms of sampling when a researcher needs to obtain a comprehensive knowledge in a particular domain (Bernard, 2017). Purposive examining may likewise be utilised with both quantitative and qualitative

research (Tongco, 2007). The Purposive Sampling Technique (PST) for sampling or (Judgment sampling) focusses on investigating certain members perspective because of the specific characteristics the member obtain (Etikan, Musa, & Alkassim, 2016). According to Cresswell & Plano Clark (2011), The PST requires identification and selection of people or entities that are well-informed and skilful with a phenomenon of interest, also, they attain the knowledge and experience required (Etikan et al., 2016).

The PST has many forms Typical Case Sampling, Homogeneous Sampling, Maximum Variation Sampling, Critical Case Sampling, Expert Sampling, Total Population Sampling, finally Extreme/Deviant Case Sampling which is adopted in this research (Bernard, 2017). This sampling method is often used when (Best in Practice) guidelines is to be developed by researchers. An example would be to focus on a phenomenon that is unusual (Etikan et al., 2016), where purposive sampling is typically intended to achieve the depth of understanding (Merriam, 2015; Patton, 2002). Purposive sampling fulfils the aim of this research in targeting specific participants with a particular degree (accounting degree). Moreover, the gap found regarding the Iraqi e-government adoption, despite the efforts of researchers and government, is un-normal which is considered as a deviant case.

Public administration accountants in the Republic of Iraq are registered in the Accountants and Auditors Committee. The committee located in Baghdad is the main branch of the committee and has members located in the various Iraqi provinces in the middle and south region of Iraq. Another committee of accountants which is located in the northern region of Iraq called Kurdistan Syndicate of Accountants and Auditors, it is a unified committee for the whole northern region. The researcher has contacted

the Kurdistan syndicate to obtain a new statistical figure of the members registered for the year of 2018 as shown in Appendix C. Whereas, the population of accountants registered in the Iraqi committee is derived from the last statistical report published on the official website (Iraqi Union of Accountants and Auditors, 2018). Also, the university approval for data collection is shown in Appendix D.

Based on statistics from the two Accounting and Auditors Committee in Iraq and the northern region of Iraq (Kurdistan), a sample size was derived for each committee based on its registered members. In probability sampling, there is a known nonzero chance of being selected for each element in the population; this is usually obtained by using a random selection procedure (Battaglia, 2008). Therefore, to reduce errors and to limit the research bias, an online questionnaire was posted on the official website of the committee where each respondent gets an equal chance of participation, and hence achieving non-bias Random Sampling for the participants in this research.

3.6.3 Sample Size

This research targeted two committees for accountants in Iraq, based on the confirmation letter shown in Appendix C from the Kurdistan Syndicate of Accountants and Auditors the total number of members registered is 9,826. Also, based on the last published reports on the official committee website of the Accountants and Auditors committee for Iraq, the total number of members registered is 26,121 (Iraqi Union of Accountants and Auditors, 2018). Table 3.2 shows the overall numbers of accountants. According to Sekaran & Bougie (2016) sampling methods of the total population shown in table 3.3, the sample size is derived.

Table 3.2
Number of Accountants and Committee Ratio

Committee name	No. of accountants	Ratio
No. of accountants in Accountants and Auditors Committee for Iraq	26,121	73%
No. of accountants in Kurdistan Syndicate of Accountants and Auditors	9,826	27%
Total	35,947	100%

Each committee was given a ratio out of the total number of populations by the following equation:

(Total number of members in the committee / Total number of accountants) * 100

By using this equation and the resulted ratio and based on the total sample size, each committee is then targeted with a specific number of distributed questionnaires.

Table 3.3
Determining Sample Size of a Given Population

Population Size	Sample Size
20,000	377
30,000	379
40,000	380
50,000	381
75,000	383
100,000	384

Source: Sekaran & Bougie (2016)

Since the total population is 35,947, hence, according to Sekaran & Bougie (2016), the sample size in this research is 380 questionnaire to be distributed. Based on the ratio divided earlier in table 3.2, the Iraqi committee is given 277.4 rounded to the nearest number 277. On the other hand, the committee of the Kurdistan region is given 102.6 rounded to the nearest number 103.

3.7 Research Instrument

A quantitative approach is considered suitable for meeting the research objectives like the ones discussed in the present research. Quantitative research is one that is formal, objective, and systematic (Sekaran & Bougie, 2016). According to Burns & Grove (2005), it is used to determine and examine the relations and compute the effects of the interaction amid the variables of the research.

Hence, the quantitative method of analysis can be invaluable to the researcher who is attempting to look for significant results from the data collected. Moreover, the method empowers summary of analysis results to bring about the type of numeric measurable qualities with a high level of certainty (Zikmund et al., 2011). On this base, the researcher has an adequate legitimisation to embrace the quantitative approach in this research. Consequently, quantitative research design is appropriate for this study.

3.8 Instrument Design

The questionnaire format is the physical planning of questions on the pages. It is concerned in the general appearance, which is crucial in a successful study (Taylor, 1992). Therefore, this research questionnaire came with an attached cover letter to the questionnaire clarifying the purpose of this study as shown in Appendix E and Appendix H. The questionnaire comes with three sections, section A look at the respondent background, section B consist of e-government status in Iraq and the third section that is section C about the factor influence use of e-government.

In section A there are eight questions about the respondent profile, meanwhile, section B consist of eight questions regarding the current stage of e-government that constitute Yes/No questions. Moreover, lastly, section C consists of Thirty-six questions about

the factor influence the use of e-government included a Likert scale of 1 to 5 to be used by the respondent to indicate their response to each question, where Likert scale ranged from (strongly agree =5) to (strongly disagree =1) (Fink, 2012).

The respondents in this research are located in the Iraqi republic, the primary language in use is the Arabic language, and therefore, the questionnaire was translated from English to Arabic by an accredited bilingual, refer to Appendix F that show the Arabic questionnaire version. Moreover, Back translation from the Arabic language to English can be undertaken to test the accuracy of the translation (Berry, 1980; Brislin, 1970; Brislin, 1980). Therefore, the Arabic was then re-translated to English by an accredited bilingual. Both the Arabic version and the English version had minor differences detected, but those variances did not alter the meaning, and slight modifications were required. This process ensured the validity of the questionnaire for utilisation and fulfilling this research aim (Berry, 1980; Brislin, 1970; Brislin, 1980).

3.9 Variable measurement

This research measures seven variables, which are PPE, PEE, SI, PFC, ISQ, RS, and E-GA. All these variables are adopted from previous studies. Variables measurement refers to the coding of each variable related to this study, these measurements along with their coding are shown in table 3.5. The variable PPE has five constructs adapted from Adulwahab & Dahalin (2011) and Venkatesh et al. (2003). The PEE variable has five constructs adapted from Adulwahab & Dahalin (2011) and Venkatesh et al. (2003).

The variable SI has five constructs adapted from Adulwahab & Dahalin (2011) and Venkatesh et al. (2003). The variable PFC has five constructs adapted from Al-Awadhi & Morris (2008). The variable ISQ has eight constructs adapted from Beest et al.

(2009). The RS variable has four constructs adapted from Ibrahim (2012). Moreover, finally, the dependent variable E-GA has four constructs adapted from Faaeq (2014). This research aims to study and understand the current state of e-government services in 2018, according to Lallo (2012) eight items and the yes or no scale can be used to obtain this goal.

The current e-government status information is gathered in the questionnaire section (B). The eight questions identified by Lallo (2012) included "Availability of e-government services, Satisfaction, Benefit, Routine, Cost, Time, Flexibility and Internet speed". Respondents were asked to provide information related to current e-government services status in conflict and unstable environment as per those eight items as illustrated in Table 3.4.

Table 3.4
Current e-government Status

(Statement)
1. Internet speed: The current Internet speed could affect e-government services.
2. Flexibility: The current e-government services are flexible.
3. Time: Use of e-government services could enable me to complete transactions quickly.
4. Cost: Usage of e-government services could decrease the cost.
5. Routine: e-government services reduce the normal administrative routine in Iraq.
6. Benefit: I am aware of the benefits of the current e-government service in Iraq
7. Satisfaction: In general, I am satisfied with the current e-government service in Iraq.
8. Availability of services: I am aware about the availability of e-government services in Iraq.

Table 3.5
Codes, Descriptions, and Measurement of Variables

Variable & Sources	Codes	Variables Description
Performance Expectancy (Adulwahab & Dahalin, 2011) (Venkatesh et al., 2003)	PPE1	- I find the e-government services useful in my life.
	PPE2	- Using the e-government services enables me to accomplish a transaction more quickly.
	PPE3	- Using e-government services enhances my life efficiency.
	PPE4	- The e-government services would enable me to access government services when I need them – 24hours/day, 7days/week.
	PPE5	-The e-government services would give all citizens an equal chance to carry out their transactions with the government.
Effort Expectancy (Adulwahab & Dahalin, 2011) (Venkatesh et al., 2003)	PEE1	- My interactions with the e-government services are clear and understandable.
	PEE2	- I find the e-government services easy to use.
	PEE3	- I find using e-government services flexible.
	PEE4	- Using e-government services frequently makes one skilful.
	PEE5	- Learning to operate the e-government services is easy for me.
Social Influence (Adulwahab & Dahalin, 2011) (Venkatesh et al., 2003)	SI1	-People in my community think I should use e-government services.
	SI2	-Important people around me think I should use e-government services.
	SI3	-In general, my community has supported the use of e-government services.
	SI4	-Using e-government services has enhanced my knowledge about the environment.

Table 3.5 (Continued)

	SI5	-People around me who use the e-government services have more prestige.
Facilitating Condition (AlAwadhi & Morris, 2008)	PFC1	- I have the necessary resources to use e-government services facilities.
	PFC2	- I have the necessary knowledge to use e-government services facilities.
	PFC3	- A specified information and support is available in case of difficulty to access e-government services.
	PFC4	- Using the e-government services fits into my work style.
	PFC5	- I have enough Internet experience to use e-government services.
Information System Quality (Beest et al., 2009)	ISQ1	-The annual reports disclose forward-looking information (Relevance)
	ISQ2	-The annual reports disclose information in terms of business opportunities and risks (Relevance)
	ISQ3	-The annual report explains the assumptions and estimations made clearly (Faithful representation)
	ISQ4	-The annual report explains the choice of accounting principles clearly (Faithful representation)
	ISQ5	-The annual reports are well-organized (Understandability)
	ISQ6	-The notes to the balance sheet and the income statement are clear (Understandability)
	ISQ7	-The notes to changes in accounting policies explain the implications of the change (Comparability)
	ISQ8	-The annual report presents financial index numbers and ratios (Comparability)
Regulation Support (Ibrahim, 2012)	RS1	-E-government usage is required in government administration
	RS2	-Business law support e-government
	RS3	-Legal protection is provided for online data in e-government
	RS4	-The rule and regulation by the government encourage the use of e-government

Table 3.5 (Continued)

e-government adoption (Faaeq, 2014)	E-GA1	-I find e-government services useful for managing my life matters
	E-GA2	-I believe e-government services create an easy way to achieve my transaction
	E-GA3	-I agree that e-government services are encouraging
	E-GA4	-I believe fast Internet access speed is important in use of e-government services

3.10 Pilot Study

As per Teijlingen, Rennie, Hundley, & Graham (2001), scientists ordinarily lead a pilot study for a few reasons, comprising (1) Testing instrument ampleness of the research, (2) Distinguishing issues that may occur amid the data gathering stage, (3) Evaluating variability in results to help decide size of the sample, (4) Setting up whether the sampling technique and frame are powerful (5) Gathering preliminary information.

One of the criteria for choosing the past instruments was the internal consistency of the scales using the coefficients of the Cronbach's Alpha reliability. Reliability test is done to check the internal consistency using Cronbach's alpha for each construct. According to Sekaran & Bougie (2016), Reliability is defined as *"An indication of stability and consistency with which the instruments measure the concepts and ensures the goodness of the measures*". The results from the pilot test, the comments, and suggestion from the feedback can benefit the researcher by using them to advance the questions for the final questionnaire (Tariq & Mat, 2017). In this research 50 questionnaires were collected online from the accountants in Iraq to the pilot study. The quality test for each factor was ascertained utilising the information of the pilot study and Statistical Package for the Social Sciences (SPSS) as the analysis software version 21.

The alpha coefficients that score above than 0.7 are considered as a constant variable, and 0.6 Cronbach's alpha is deemed to be weak (Sekaran, 2013). After the conducted pilot study all the factors Cronbach Alpha showed a value that was within the reliable range. The Result of Cronbach's alpha reliability test is given in Table 3.6 and Table

3.7; those represent the reliability of variables as well as the frequency of demographic information and e-government current state questions respectively.

Table 3.6
The Result of Cronbach's Alpha Reliability for Research Variables

	Cronbach's Alpha	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RS1	0.844	11.265	10.741	.421	.927
RS2		11.000	9.292	.814	.745
RS3		10.408	10.497	.716	.793
RS4		10.918	8.827	.852	.725
SI1	0.867	14.000	18.292	.715	.836
SI2		14.041	17.165	.824	.809
SI3		14.286	18.292	.448	.913
SI4		13.837	16.764	.772	.819
SI5		13.714	17.250	.789	.817
FC1	0.777	14.204	16.791	.298	.830
FC2		13.510	16.130	.738	.699
FC3		13.673	13.891	.666	.693
FC4		13.735	13.032	.657	.697
FC5		13.367	16.821	.538	.744
ISQ1	0.894	25.490	37.630	.667	.881
ISQ2		25.469	37.504	.710	.877
ISQ3		25.796	35.999	.793	.869
ISQ4		25.571	37.292	.634	.885
ISQ5		25.653	36.940	.774	.872
ISQ6		25.510	38.505	.527	.896
ISQ7		25.571	36.542	.623	.887

Table 3.6 (Continued)

ISQ8		25.224	38.469	.712	.878
EE1		13.408	19.205	.362	.821
EE2		13.490	15.755	.647	.742
EE3	0.800	13.796	14.124	.755	.702
EE4		13.735	16.116	.618	.751
EE5		13.653	16.065	.543	.776
PE1		14.939	11.559	.864	.759
PE2		14.857	11.083	.735	.779
PE3	0.838	14.857	14.083	.433	.854
PE4		14.918	10.910	.664	.800
PE5		15.041	10.290	.609	.827
E-GA1		12.34	6.596	.662	.790
E-GA2		12.54	6.213	.678	.784
E-GA3	0.834	12.50	7.031	.631	.804
E-GA4		12.48	6.418	.685	.780

Also, the table below represents the frequency and reliability results from the pilot study for the demographic section of the questionnaire, along with the current status of e-government using the dichotomous scale.

Table 3.7
The Result of Demographic Reliability and e-government Status

Group	Category	Frequency	Percentage	Valid Percent	Cumulative Percent
Gender	Female	23	46.0	46.0	46.0
	Male	27	54.0	54.0	100.0
Age	18-25	8	16.0	16.0	16.0
	26-35	38	76.0	76.0	92.0
	36-45	4	8.0	8.0	100.0
Marital status	Married	13	26.0	26.0	26.0

Table 3.7 (Continued)

	Single	37	74.0	74.0	100.0
Education level	Bachelor	20	40.0	40.0	40.0
	Diploma	6	12.0	12.0	52.0
	Master	20	40.0	40.0	92.0
	Ph.D.	4	8.0	8.0	100.0
Business sector	Agriculture	13	26.0	26.0	26.0
	construction	3	6.0	6.0	32.0
	Education	16	32.0	32.0	64.0
	Services	6	12.0	12.0	76.0
	Tourism	7	14.0	14.0	90.0
	Trading	5	10.0	10.0	100.0
Your monthly income	>751,000	11	22.0	22.0	22.0
	251,000 - 500,000	35	70.0	70.0	92.0
	501,000 – 750,000	4	8.0	8.0	100.0
The duration you have used the Internet	1-3 years	9	18.0	18.0	18.0
	4 to 5 years	2	4.0	4.0	22.0
	Less than a year	2	4.0	4.0	26.0
	More than 5 years	37	74.0	74.0	100.0
Duration your company has been established	1-5 years	9	18.0	18.0	18.0
	6-10 years	12	24.0	24.0	42.0
	Less than 1 year	12	24.0	24.0	66.0
	more than 10 years	17	34.0	34.0	100.0
Availability of services: I am aware of the availability of e-government services	No	2	4.0	4.0	4.0
	Yes	48	96.0	96.0	100.0

Table 3.7 (Continued)

Satisfaction: In general, I am satisfied with the current e-government services	No	10	20.0	20.0	20.0
	Yes	40	80.0	80.0	100.0
Benefit: I am aware of the benefits of the current e-government services	No	3	6.0	6.0	6.0
	Yes	47	94.0	94.0	100.0
Routine: e-government services reduce the normal administrative routine	No	9	18.0	18.0	18.0
	Yes	41	82.0	82.0	100.0
Cost: Usage of current e-government services decreases the cost of citizen transaction	No	12	24.0	24.0	24.0
	Yes	38	76.0	76.0	100.0
Time: current Use of e-government services enables me to complete transactions more quickly	No	4	8.0	8.0	8.0
	Yes	46	92.0	92.0	100.0
Flexibility: The current e-government services are flexible	No	9	18.0	18.0	18.0
	Yes	41	82.0	82.0	100.0
Internet speed: e-government services are affected by Internet speed	No	2	4.0	4.0	4.0
	Yes	48	96.0	96.0	100.0

The results from the pilot test are benefited from by using them to advance the questions for the final distribution. As shown in the tables above, all the variables show

Cronbach's alpha values within the acceptable range which are above .60 according to Hair, Black, Babin, Anderson, & Tatham (2006) and Sekaran & Bougie (2016). The reliability value for all constructs ranged from .777 to .894. Based on the score of Cronbach alpha the proposed instrument has satisfied the basic necessity of being valid. Accordingly, the actual final distribution has been conducted with no alterations required and as per the distribution method.

3.11 Data Collection

Online surveys are identified to have numerous advantages over the paper-based (traditional) surveys that make researchers attracted to them. Yet, there are few publications that embrace online data collection method, as it has not yet become popular. In fact, it is deemed as a recently-emerged technique for data collection (Li & Wu, 2010). Fortunately, new technologies have allowed researchers to obtain many benefits which include lower cost, reduced response time, flexibility of and control over format, ease of data entry, recipient acceptance of the format, advances in technology, and the ability to obtain additional response-set information (Granello & Wheaton, 2004; Li & Wu, 2010).

There are several methods for collecting data online. The two most common are e-mail surveys and Web-based surveys. According to Granello & Wheaton (2004) *"With e-mail surveys, the participant receives an e-mail with a survey embedded in it, clicks on the (reply) button, fills the survey out, and clicks on the "send" button. The researcher then transfers the raw data into a database".* On the other hand, Web-based surveys encompass a website with the availability of the instrument on that website. Individuals are invited by (Web site, e-mail, traditional mail, or telephone) to participate in the survey. According to Lefever, Dal, & Matthiasdottir (2007)

"Participants are given access to a linked survey sheet then fill in their responses; they complete the form online and then click on a "submit" button when they have completed it".

However, several studies show that e-mail surveys produce a significantly lower response rate than Web-based surveys. More importantly, as the responses obtained from participants are saved directly into the database and the fact that each question field is marked as required, this feature reduces if not eliminates missing data and data entry errors (King, O'Rourke, & DeLongis, 2014).

After the questionnaire was tested from the pre-sample of 50, the actual survey was distrusted. This study focusses on Iraq and aims to obtain the perspective of accountants during the same period who are located in various administrative offices across Iraq. The study might anticipate some problems and hindrances relating to data collection, physical data collection method in Iraq is expensive. Also, transportation within Iraq provinces is very costly. Furthermore, given the Republic of Iraq current environmental situation and instability, made it even more difficult to distribute and collect data physically.

According to Sekaran & Bougie (2009), the questionnaire can be administrated physically, e-mailed to the respondent, or distributed electronically. For this reason, in the context of this research, a web-based survey was adopted. As the accountant's information is confidential and will not be provided by the committee, an online link was provided to the accountants on the official website. Accountants can use the provided link to be forwarded directly to the OneDrive Online Survey sheet and fill in the responses as shown in Appendix G. The survey data was collected from the period (28/July/2018 to 29/September/2018).

3.12 Analysis Method

When it comes to modelling connections amongst variables, primarily two diverse methodological approaches can be distinguished Covariance structure analysis and PLS path modelling (Temme, Kreis, & Hildebrandt, 2010). Ringle, Wende, & Will (2005) developed a Partial Least Squares Structural Equation Modelling (PLS-SEM) software applications which is Smart-PLS (S-PLS). The software has high researchers admiration and approval since the launch in 2005, due to its free availability for academics and the advanced reporting features with a user-friendly interface (Wong, 2013). This software is highly suitable for testing complex structural models (Gupta, Seetharaman, & Raj, 2013).

An important issue that needs to be checked is the distribution of the data and whether it is normally or abnormally distributed. An estimation of the normality data is a prerequisite for many statistical tests. It is important to confirm that the data are not too far from a normal distribution. An extremely non-normal data is problematic in the evaluation of the parameters significances and distorts the results of the multivariate analysis (Hair et al., 2014; Hair et al., 2011; Hair et al., 2017). Nowadays, researchers do not seem to care about data normality since Smart-PLS can handle non-normal data (Reinartz, Haenlein, & Henseler, 2009; Wong, 2013), however the data, in particular, is ought to be larger than 200 samples (Afthanorhan, Nazim, & Ahmad, 2014), which is the case in the current study. As Smart-PLS is capable of dealing with abnormal data, it is considered a major strength point and motivation to use the software (Chin, 2010; Hair et al., 2017). The first thing is the scholars should execute the full data by PLS algorithm and Bootstrapping approach. PLS algorithm is aimed to provide the outer loading and outer weight for researchers to identify the strength of each manifest

variables (items). A bootstrap technique is used to generate the standard error for each construct (Afthanorhan, Ahmad, & Sabri, 2015).

On the other hand, an outlier is an observation with unique characteristics that distant from other values in a random sample from a population (Hair et al., 2010). It can be an extreme value to a particular question, or extreme values to all questions. In general, statistical inferential tests can be relatively sensitive to outliers, often because, the calculations rely on squared deviations from the mean (Hair et al., 2010). Although, PLS-SEM is not affected by outliers (Hair et al., 2010; Hair et al., 2011), several researchers recommended an examination and elimination of observed outliers before starting the hypotheses testing (Hair, Hult, Ringle, & Sarstedt, 2016). In PLS-SEM algorithm the ability to converge a data that is more than 300 iterations it means that the data is normal. Any PLS-SEM algorithm cannot converge data less than 300 iterations it means that the data is abnormal (Wong, 2013).

Hence, to drift appropriate measures and to construct high confidence levels many researchers resort to using the late advancement of nonparametric bootstrapping in Smart-PLS with an iteration of 5000 sample. This technique can eliminate any data error (such as non-normality or outliers) as it entails random resampling to obtain the desired empirical distribution (Abdelkader, Hathroubi, Jemaa, & Mekki, 2012; Hair et al., 2016; Mooney, Duval, & Duvall, 1993; Shurafa & Mohamed, 2016; Yaffee, 2002). Therefore, in this research two stages of data analysis are used. The first stage represents the analysis of the demographic data and interpretation of the e-government activities by using specially programmed software of Statistical Package for Social Science (SPSS) version 21. Based on the questionnaire format (Refer to Appendix E) the first stage includes an analysis of Section One, and Two. In stage two, the

researcher used Smart-PLS version 3.2.7 to analyse the hypothesis of this research and validate the research measurement in Section Three.

3.13 Chapter Summary

Based on UTAUT theory a theoretical framework (a research model) is projected in this chapter. The model has Ten developed hypotheses; these hypotheses are adapted from prior studies with the intention of examining the relationship amid Public Effort Expectancy, Public Facilitating Condition, Social Influence, Public Performance Expectancy, Regulation Support, Information System Quality, and e-government adoption. Also, the chapter discourses the research design, which is based on the quantitative approach. Moreover, the purposive sampling technique had been utilised as well as the Smart-PLS analysis software version 3.2.7. Furthermore, the chapter also highlighted variable validity through a pilot study and data collection procedures.

CHAPTER FOUR
DATA ANALYSIS AND FINDINGS

4.1 Introduction

The findings of the study are discussed in this chapter. The result discussion in this chapter is divided into three main sections; section one presents the demographic information of the respondent, such as age, educational level, and so on. The next section discusses the current stage of e-government in Iraq obtained from the respondents. The final section, which is section three explains the data analysis and the results obtained from Smart-PLS, in other words, to indicate how many variables are supported or not supported which are explained in this chapter.

4.2 Participation and Response Rate

A total of 400 questionnaires was obtained from within the period of approximately two months launching from 28/July and closing at 29/September in the year 2018. Although the required sample for this research was only 380 respondents, 400 were collected in order to improve the validity and analysis accuracy. As the data were collected online, Granello & Wheaton (2004) highlighted the ability to obtain additional response-set information, which supports the ability of obtaining the additional 20 responses. A total of 400 responses from participant were obtained which yields a relatively high response rate from accountants in Iraq, representing 105% in two months period. Overall, a total of 292 questionnaires were collected from respondents of the Iraqi committee, with a total of 108 were collected from respondents of the Kurdistan syndicate, both amounting to 400 questionnaires. After all, the

responses collected from Iraqi respondents and respondents in Kurdistan region were combined and analysed together in order to provide a wide frame of understandability.

4.3 Missing Data Treatment

Missing data in the questionnaire normally needs to be treated in order for the questionnaire to be valid and used in the analysis. Researchers usually fill in the missing field with the aid of the analysis software, where the software takes the average answer for the specific question and fills in the gap by using the likelihood method. This is usually applied to the traditional method of distribution, in other words, physical questionnaire distribution (Hwang, 2005; Little & Rubin, 1989).

Since the data collection method in this research is an online link via One-Drive linked directly to an excel sheet, each field of the questionnaire (each question) was designed to be required. In other words, each question could not be left with no answer by the respondents, hence eliminating any missing data from occurring from participants missing responses in some cases for each construct (King et al., 2014; Lefever et al., 2007; Li & Wu, 2010). For this reason, the survey contained zero missing data, refer to Appendix I.

4.4 Section One: Demographic Data Analysis

This part will discuss the first level of data analysis regarding the personal information about the respondent which is section one in the questionnaire form. The frequency distributions were obtained for all the personal data or classification variables. The demographic data related to the respondents consisted of eight questions as explained in the subsequent sections.

4.1.1 Gender

As shown in table 4.1 below the frequency of the gender question for the male was (220) which represent 55% per cent, and for the female (180) while in per cent 45%. The total number is (400) participation which is 100% in percentage.

Table 4.1
Gender of Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Female	180	45.0%	45.0	45.0
Male	220	55.0%	55.0	100.0
Total	400	100.0%	100.0	

4.1.2 Age

In this research three age groups were included as shown in table 4.2 below, the first age group of respondents that ranges from (18 to 25) amounted to (72) in frequency term and percentage 18%. The second age group ranges from (26 to 35) were (296) respondents while in per cent term 74%. The final age group ranges from the age (36 to 45) were (32) in term of frequency which is equal to 8%. The majority of participants were from the age group (26 to 35) which represent the youth force in Iraq, that being said, no participation was obtained from the age groups (46 to 55), and (56 & above) in this research.

Table 4.2
Age of Respondents

Age group	Frequency	Percent	Valid Percent	Cumulative Percent
18-25	72	18.0%	18.0	18.0
26-35	296	74.0%	74.0	92.0
36-45	32	8.0%	8.0	100.0
Total	400	100.0%	100.0	

4.1.3 Marital Status

In table 4.3 below the frequency of the respondent's marital status is shown, (286) of the research respondents were single which represent 71.5%. While (114) of the respondents were married, that is 28.5% in percentage form.

Table 4.3
Marital Status of Respondents

Status	Frequency	Percent	Valid Percent	Cumulative Percent
Married	114	28.5%	28.5	28.5
Single	286	71.5%	71.5	100.0
Total	400	100.0%	100.0	

4.1.4 Educational Level

As shown in table 4.4 below, the educational level of the respondents were 9% PhD degree holders that stand for (36) in frequency. The respondent that acquired the diploma degree in accounting was 12% while in frequency (48) of the respondents. The majority of respondents acquired the bachelor's degree and represented 40%, or in other words (160) respondent. Finally, the second largest group to participate in this research were master's degree holders that represent 39% and in frequency term (156) respondent.

Table 4.4
Educational Level of Respondents

Degree	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor	160	40.0%	40.0	40.0
Diploma	48	12.0%	12.0	52.0
Master	156	39.0%	39.0	91.0
Ph.D.	36	9.0%	9.0	100.0
Total	400	100.0%	100.0	

4.1.5 Business Sector

As shown in table 4.5 below, the business sector distribution of the respondent. The highest number of participants was 36% which represent the education sector in frequency term (144) respondent. The Agriculture sector respondents are (88) which mean in term of percentage 22%. The number of (60) respondents were from Tourism sector which is 15%. Service sector represents 13% or (52) respondents in frequency. The trading sector had a percentage of 8% in frequency term, (32) respondents. The lowest percentage was 6% in the construction sector that equals to (24) respondents.

Table 4.5
Business Sector of Respondents

Sector	Frequency	Percent	Valid Percent	Cumulative Percent
Agriculture	88	22%	22	22.0
Construction	24	6%	6	28.0
Education	144	36%	36	64.0
Services	52	13%	13	77.0
Tourism	60	15%	15	92.0
Trading	32	8%	8	100.0
Total	400	100	100.0	

4.1.6 Monthly Income

As per the Table 4.6 below, the majority of respondent's monthly income range between (251,000 to 500,000) Iraqi Dinar, in frequency it is equal to (280) respondent and about 70%. Respondents who had a salary of (751,000 and above) represent (80), that is equal to 20%. The smallest group of (40) respondent had a salary range of (501,000 to 750,000) that represent 10%.

Table 4.6
Monthly Income Rate for Respondents

Income range	Frequency	Per cent	Valid Percent	Cumulative Percent
251,000 - 500,000	280	70%	70.0	70.0

501,000 - 750,000	40	10%	10.0	80.0
>751,000	80	20%	20.0	100.0
Total	400	100.0	100.0	

4.1.7 Duration of Internet Usage

Table 4.7
Internet Usage Period Among Respondents

Period	Frequency	Per cent	Valid Percent	Cumulative Percent
Less than a year	24	6%	6.0	6.0
1-3 years	84	21%	21.0	27.0
4 to 5 years	16	4%	4.0	31.0
More than 5 years	276	69%	69.0	100.0
Total	400	100.0	100.0	

As shown in Table 4.7 above, the majority of the participants have been using the internet for more than five years; those represent 69% and (276) in frequency. On the other hand, respondents the have been using the internet for 4 to 5 years represent only 4%, which represent only (16) participant. 21% of the respondents have been using the internet for 1 to 3 years; those represent (84) respondent. Lastly, (24) respondents only have used the internet for less than a year, which represents 6% of the total sample population.

4.1.8 Duration of Firm Establishment

As shown in Table 4.8 below, most of the firms have been established for more than ten years as they represent (132) respondent and 33%. Only (96) respondents firm have been established for less than a year which they represent 24% of the sample. Also,

(96) of the respondent's firm have been established for six to ten years which represent 24%. The remaining (76) respondents firms have been established for within the period of one to five years; those have a share of 19% of the total sample.

Table 4.8
Duration of Respondent's Firm Establishment

Duration	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 1 year	96	24%	24.0	24.0
1-5 years	76	19%	19.0	34.0
6-10 years	96	24%	24.0	67.0
More than 10 years	132	33%	33.0	100.0
Total	400	100.0	100.0	

4.5 Section Two: Current E-Government Status

This section aims to analyse this issue from the perspective of accountants all over Iraq. The researcher used the dichotomous scale to obtain "yes" or "no" (Lallo, 2012). Respondents were asked to offer information related to the services of e-government in conflicts and unstable environment using eight questions.

Most of the respondents are aware of the service Availability, the benefit it brings, the minimised cost and time. However, high rank of the respondents are unsatisfied with the current service, nor the flexibility of the service. Also, most respondents believe that the current internet speed in Iraq can pose an effect on e-government usage as shown in Table 4.9 below.

Table 4.9
The e-government Status

Statement	Scale	No	Percentage
1. Services Availability	Yes	300	75%
	No	100	25%
2. Satisfaction	Yes	216	54%
	No	184	46%
3. Benefit	Yes	316	79%
	No	84	21%
4. Routine	Yes	336	84%
	No	64	16%
5. Cost	Yes	372	93%
	No	28	7%
6. Time	Yes	321	80%
	No	79	20%
7. Flexibility	Yes	180	45%
	No	220	55%
8. Internet speed	Yes	332	83%
	No	68	17%

4.6 Section Three: Assessment of PLS-SEM Path Model Results

In this section, the second level of analysis is conducted which includes the hypothesis analysis. Chin (2010) and Hair, Sarstedt, Ringle, & Gudergan (2017), have asserted on the issue of clear and detailed reporting of the data analysis procedure in order to ensure the high quality and the eligibility of the results. The PLS-SEM reporting technique involves two main steps; Assessing the Measurement Model (i.e. the outer model) followed by Assessing the Structural Model (i.e. the inner model) (Chin, 2010; Hair et al., 2017).

4.6.1 Assessing the Measurement Model (Outer Model Testing)

Ramayah, Lee, & In (2011) defined the convergent validity as *"A statistical test used to describe the level of agreement between each element of the same structure, it*

appears if there is no conflict between measurements of the same structure". The value of convergence is based on the relationship between each measurement of the specific component taken differently (Taylor & Todd, 1995). For this purpose, Hair, Black, Babin, Anderson, & Tatham (2010) and Hair et al. (2017), proposed that researchers use the Reliability of the Compound (CR), the Average Variance of the Extract (AVE), Factor Loading to test the validity of convergence, and the Discriminant Validity of the Measures. Those tests determination is highlighted in the subsequent sections.

4.6.1.1 Composite Reliability (CR)

The reliability and measurements consistency can be examined using factor loading or composite reliability to test and confirm factors consistency. Hair et al. (2010) defined the CR as *"A measure of the overall reliability of a collection of heterogeneous but similar items"*. In other words, Hair et al. (2010) indicated that it gives an evaluation of the mutual difference by the indicators by utilising the loading of items from the nominal network. Therefore, it specifies to what extent (quantity) the elements continuously clarify the hypothesis.

According to Fernandes (2012) and Hair, Ringle, & Sarstedt (2011), in order for the variable value to be considered confirmative and indicators reflect the latent variable construct, the CR value should be greater than 0.70. In the present research, all CR values exceeded the recommended value of 0.70 and ranged from (0.849 to 0.938) as shown in table 4.10 below. Hence considered as valid.

Table 4.10
Composite Reliability

Item	Composite reliability (CR)
Information System Quality	0.918
e-government adoption	0.938

Public Effort Expectancy	0.894
Public Facilitating Conditions	0.908
Public Performance Expectancy	0.849
Regulation Support	0.896
Social Influence	0.907

4.6.1.2 Factor Loading (Outer Loading)

According to Hair, Sarstedt, Hopkins, & Kuppelwieser (2014), factor loading *"Reflects the level to which the items of the same construct are consistent with each other"*. In other words, factor loading is a vital test for reliability that examines the load of each element on its corresponding variable in the model. The higher the factor loading is, the more construct items are consistent with each other. Thus, the factor loading value ought to be equal to the typical value of 0.70 or more; stronger construct consistency is shown with figures higher than the typical value (Hair et al., 2014; Hair et al., 2017). In this research, all values of factor loadings exceeded the recommended value and range from (0.725 to 0.913) as shown in Table 4.11 below and figure 4.1 below.

Table 4.11
Factor Loading

Item	Factor loading
ISQ1	0.815
ISQ2	0.835
ISQ3	0.886
ISQ4	0.831
ISQ5	0.790
E-GA1	0.904
E-GA2	0.894
E-GA3	0.881
E-GA4	0.878
PEE1	0.871

PEE2	0.872
PEE4	0.834
PFC2	0.913
PFC3	0.878
PFC4	0.834
PPE2	0.730
PPE4	0.832
PPE5	0.856
RS1	0.909
RS2	0.725
RS3	0.886
RS4	0.871
SI1	0.874
SI2	0.865
SI3	0.845

Note: (PPE = Public Performance Expectancy, PEE = Public Effort Expectancy, PFC = Public Facilitating Condition, SI = Social Influence, ISQ = Information System Quality, RS = Regulation Support, E-GA = E-Government Adoption).

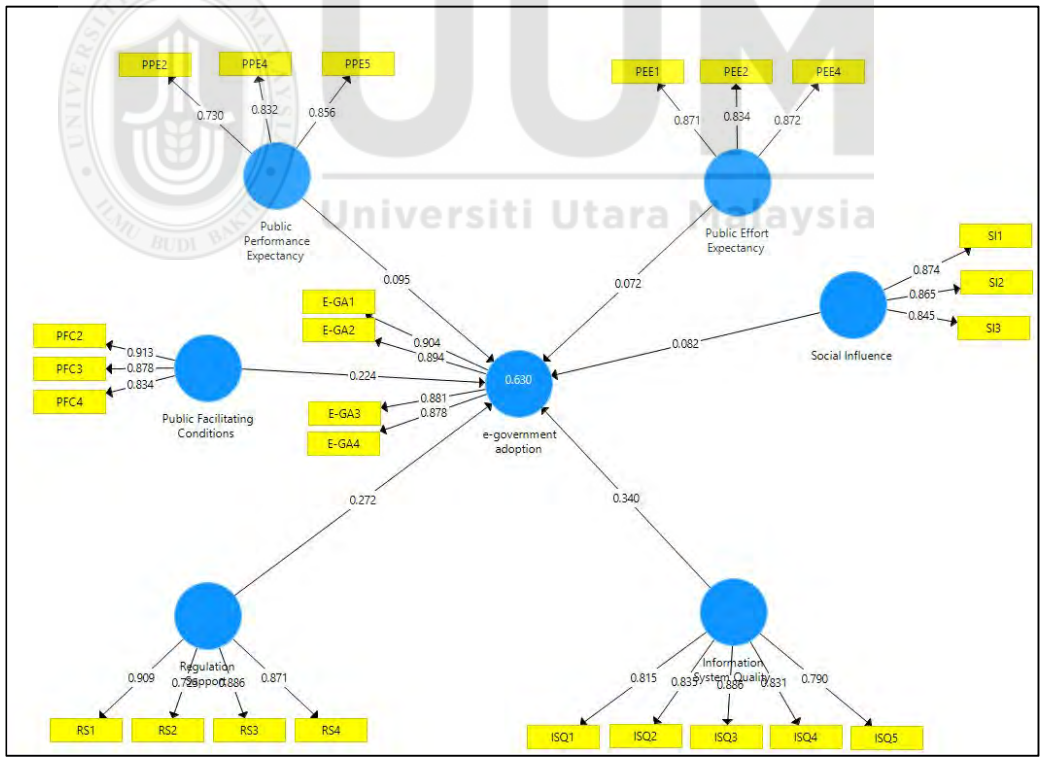


Figure 4.1
Factor-Loading

4.6.1.3 Average Variance Extracted (AVE)

According to Hair et al. (2010), the AVE is *"A statistical assessment that measures the average percentage of the variance extracted commonly amongst the observed variables"*. Therefore, AVE examines the variance encapsulated by the indicators relative to measurement error. The prescribed standard estimation of AVE should be more than 0.50 to guarantee that the passive variable can interpret more than half of its mean variation to justify the use of the structure (Fernandes, 2012; Hair, et al., 2014). In this examination, all AVE esteems legitimised the utilisation of all builds as the qualities surpassing the prescribed estimation of 0.50 and extended from (0.653 to 0.791) as shown in table 4.12.

Table 4.12
Average Variance Extracted (AVE)

Item	AVE
Information System Quality	0.692
e-government adoption	0.791
Public Effort Expectancy	0.738
Public Facilitating Conditions	0.766
Public Performance Expectancy	0.653
Regulation Support	0.724
Social Influence	0.743

4.6.1.4 The Discriminant Validity of the Measures

Shurafa & Mohamed (2016) expressed that the Discriminant Validity is *"The extent to which a construct is truly distinct from other constructs by empirical standards. Hence, discriminant validity is a statistical test used to evaluate the degree to which items differentiate among constructs"*. Particular concepts are quantified by the

correlation examination of potentially overlapping constructs. According to Hair et al. (2014) discriminant validity of the measures is *"The degree to which items differentiate among constructs or measure distinct concepts"*. Given this impression, a high numerical figure infers that a construct is exceptional in phenomenon estimation in a way that other construct cannot capture (Hair et al., 2011).

Also, the validity of discrimination is an imperative test to certify that there are no problems of cross-loading associated with the measured elements (Chin, 2010; Hair et al., 2017). Thus, the validity of the discrimination in this study was used to confirm that each set of measurements was more constructively correlated than alternative constructs by reviewing the interfering invariance. Accordingly, if a specific build is more associated with another than with its very own measures, this infers that the two develops comparative share sorts of measures, and they are not diverse in terms of concept (Chin, 2010; Hair et al., 2017).

For the measurement purpose in this research three test standards were conducted to examine discriminant legitimacy, namely Cross-Loading, Square Root of AVE, and Heterotrait-Monotrait Ratio (HTMT). Primary the first test included examining constructs cross-loading (correlation). In this standard according to Chin (2010), the stacking estimation of every factor to its very own build ought to surpass the relationship esteem with different develops (i.e., cross stacking). This research results for the variables are shown in figure 4.2, and table 4.13 below.

Table 4.13
Discriminant Validity-Cross Loading

	e-government adoption	Information System Quality	Public Effort Expectancy	Public Facilitating Conditions	Public Performance Expectancy	Regulation Support	Social Influence
E-GA1	0.904	0.649	0.277	0.492	0.321	0.655	0.466
E-GA2	0.894	0.471	0.319	0.611	0.340	0.678	0.499
E-GA3	0.881	0.485	0.245	0.454	0.329	0.582	0.391
E-GA4	0.878	0.683	0.128	0.399	0.391	0.552	0.413
ISQ1	0.554	0.815	0.009	0.284	0.230	0.553	0.278
ISQ2	0.491	0.835	-0.015	0.220	0.274	0.571	0.263
ISQ3	0.531	0.886	0.101	0.285	0.290	0.512	0.366
ISQ4	0.557	0.831	0.193	0.246	0.269	0.488	0.384
ISQ5	0.542	0.790	0.007	0.236	0.388	0.446	0.248
PEE1	0.215	0.093	0.871	0.270	0.047	0.126	0.282
PEE2	0.201	0.024	0.834	0.260	-0.013	0.274	0.334
PEE4	0.276	0.067	0.872	0.270	0.155	0.272	0.273
PFC2	0.484	0.306	0.261	0.913	0.203	0.459	0.483

Table 4.13 (Continued)

PFC3	0.530	0.260	0.270	0.878	0.170	0.461	0.401
PFC4	0.426	0.237	0.287	0.834	0.116	0.450	0.465
PPE2	0.220	0.285	0.136	0.136	0.730	0.385	0.167
PPE4	0.332	0.316	0.045	0.124	0.832	0.319	0.171
PPE5	0.361	0.258	0.050	0.192	0.856	0.300	0.156
RS1	0.624	0.491	0.280	0.513	0.349	0.909	0.409
RS2	0.457	0.540	0.178	0.247	0.345	0.725	0.404
RS3	0.683	0.530	0.176	0.588	0.301	0.886	0.458
RS4	0.573	0.561	0.265	0.366	0.386	0.871	0.398
SI1	0.447	0.341	0.216	0.528	0.122	0.410	0.874
SI2	0.421	0.310	0.275	0.357	0.218	0.409	0.865
SI3	0.422	0.308	0.395	0.429	0.183	0.448	0.845

Note: (PPE = Public Performance Expectancy, PEE = Public Effort Expectancy, PFC = Public Facilitating Condition, SI = Social Influence, ISQ = Information System Quality, RS = Regulation Support, E-GA = E-Government Adoption).

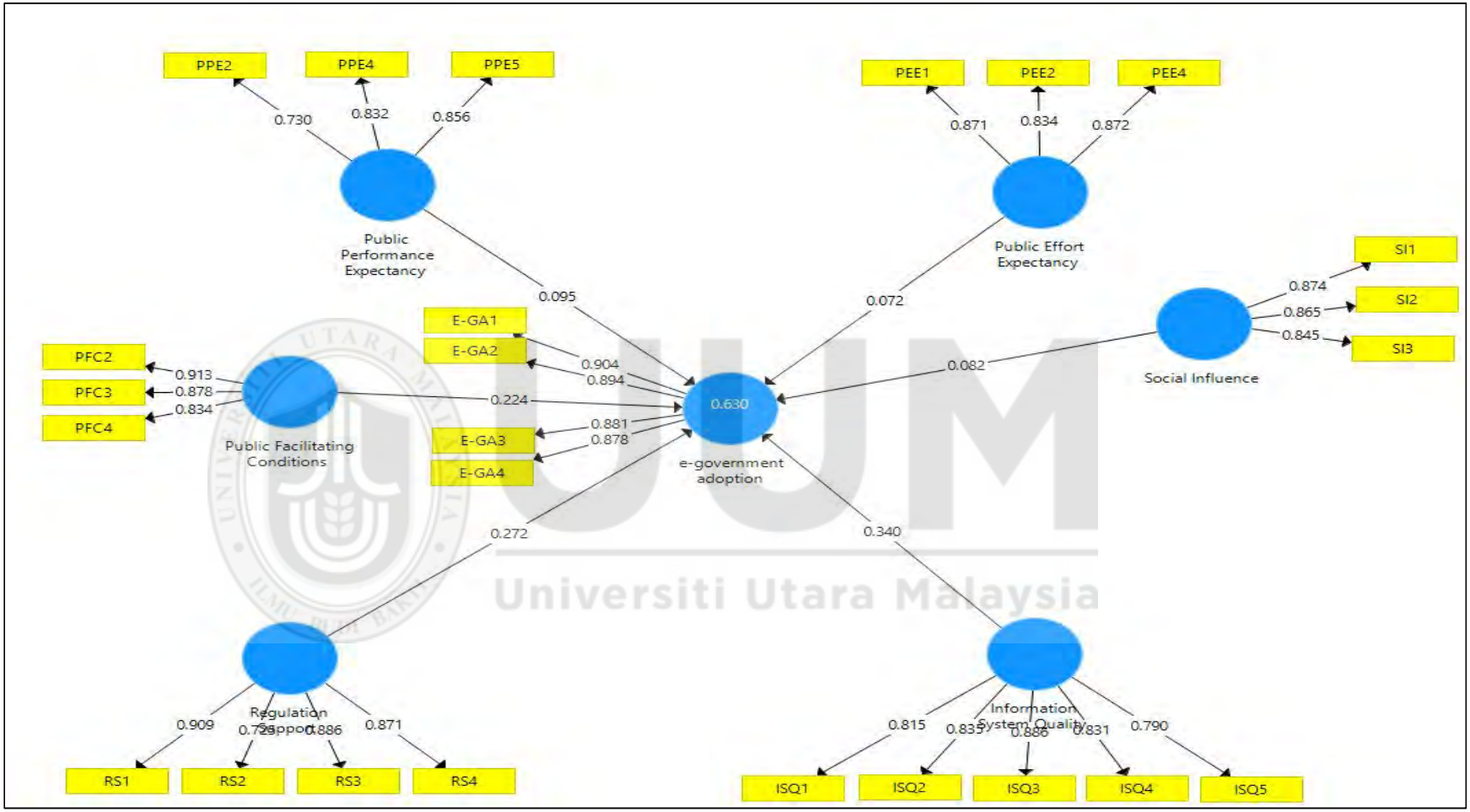


Figure 4.2
Cross-Loading

The table 4.13 clearly indicate that results of the factors cross-loadings show that each factor (highlighted figures) to its respective construct have been proven as valid and exceeded the value of the relatively near constructs as per the indication of Chin (2010). Thus, the study measurements have met the vital terms of discriminant validity and proven to be valid.

The second principle used in this research is the AVE Square Root test. In this technique, *"Discriminant validity occurs when the calculation of the square root of AVE is greater than the correlation between the factors making each pair"* (Fornell & Bookstein, 1982). The values ought to be higher than the other off-corner to corner components in the lines and segments, which was the situation in the connection grid of this examination. Table 4.14 demonstrates the study results.

Table 4.14
The Variable Correlation-Square Root of AVE

	ISQ	E-GA	PEE	PFC	PPE	RS	SI
ISQ	0.832						
E-GA	0.645	0.889					
PEE	0.073	0.274	0.859				
PFC	0.307	0.552	0.310	0.875			
PPE	0.349	0.388	0.084	0.188	0.808		
RS	0.617	0.696	0.264	0.521	0.401	0.851	
SI	0.372	0.499	0.341	0.510	0.201	0.490	0.862

Note: (PPE = Public Performance Expectancy, PEE = Public Effort Expectancy, PFC = Public Facilitating Condition, SI = Social Influence, ISQ = Information System Quality, RS = Regulation Support, E-GA = E-Government Adoption).

Table 4.14 above plainly demonstrate that the all AVE square root (highlighted figures) exceeded the correlation with other constructs (other off-corner to corner components), which demonstrate the validity of this study.

Hair et al. (2017) recommend assessing the Heterotrait-Monotrait Ratio (HTMT) of the correlations as a remedy. HTMT approach is an estimate of what the true correlation between two constructs would be if they were perfectly reliable. The HTMT ratio between two constructs close to one indicates a lack of discriminant validity. According to Henseler, Ringle, & Sarstedt (2015), the HTMT has superior performance in evaluating discriminant validity compared to other traditional approaches. Thus, the HTMT approach was used as an additional test to assess discriminant validity in this study. Henseler et al. (2015) stated that an HTMT value above 0.90 suggests a lack of discriminant validity. When the constructs in the path model are conceptually more distinct, a lower and thus more conservative threshold value of 0.85 seems warranted. Table 4.15 shows the values of the HTMT ratio of correlations for the study model. Because all values were below 0.85 as the relevant threshold level, satisfactory discriminant validity was also confirmed.

Table 4.15
Discriminant Validity-Results of Heterotrait Monotrait (HTMT) Test

	ISQ	E-GA	PEE	PFC	PPE	RS	SI
ISQ							
E-GA	0.713						
PEE	0.110	0.307					
PFC	0.351	0.621	0.372				
PPE	0.436	0.457	0.131	0.232			
RS	0.711	0.769	0.307	0.587	0.522		
SI	0.432	0.572	0.419	0.611	0.262	0.579	

Note: (PPE = Public Performance Expectancy, PEE = Public Effort Expectancy, PFC = Public Facilitating Condition, SI = Social Influence, ISQ = Information System Quality, RS = Regulation Support, E-GA = E-Government Adoption).

4.6.2 Structural Model Assessments (Inner Model Testing)

After conducting the outer model, tasting comes the second step of testing the inner model as suggested by Fernandes (2012) and Hair et al. (2011). Several tests need to be carried out in order to assess the significance of hypothesized relationships and the predictive power of the proposed model in the inner model, the tests include Predictive Relevance (Q2), Coefficient of Determination (R2), Path Coefficient (Hypothesis Testing), and Goodness of Fit (GoF) (Chin, 2010; Hair et al., 2017; Ramayah, Cheah, Chuah, Ting, & Memon, 2016). These steps will be discussed thoroughly in the following subsections.

4.6.2.1 The Coefficient of Determination (R^2)

The determination coefficient is recognised as (R2), it is considered as one of the fundamental norms in the PLS-SEM model evaluation. The R2 value signifies that one or more exogenous variables can clarify the variance percentage in the endogenous variable(s) (Fernandes, 2012). Hair et al. (2010), stressed that *"The goal of the prediction-oriented PLS-SEM approach is to explain the endogenous latent variables variance"* (p. 147). In other words, the R2 refers to how much variance in the endogenous construct (i.e. the dependent variable) is explained by its associated exogenous constructs (i.e. the independent variables) (Chin, 2010; Hair et al., 2017; Ramayah et al., 2016). The value of R2 ranges from zero to one; a higher value of R2 means that the model has more predictive power (Hair et al., 2017).

Moreover, Chin (1998) characterised the R2 values into four groups, values exceeding 0.67 are considered high, the second group contains the moderate values which range from 0.33 to 0.67. Values ranging from 0.19 to 0.33 are thought to be weak. Lastly, a

lesser amount than 0.19 is unacceptable values. By this means, the structural model quality is highly dependent upon the R2 value, which reveals the ability of the exogenous variable(s) to explain the endogenous variables. As per the above, all the research R2 values fulfilled Chin (1998)'s requirement. The R2 result of this research is (0.624), exogenous variable(s) ranged between 0.33 to 0.67. Hence it is considered as moderate, this means that the independent variables can explain 64 per cent of the adoption of e-government as shown in table 4.16 below.

Table 4.16
R-square

Construct Relation	R Square (R^2)	Result
e-government adoption	0.624	Moderate

4.6.2.2 Predictive Relevance (Q^2)

According to Chin (2010), another criterion to evaluate the predictive relevance of the study's model. In other words, the Q2 criterion attempts to measure how well an endogenous construct's can be reconstructed depending on the model and its estimates (Chin, 2010; Hair et al., 2017; Henseler, Ringle, & Sinkovics, 2009; Ramayah et al., 2016). The Q2 assume that the model must have a satisfactory capacity to foresee each indicator for the endogenous variable (Hair et al., 2011). The predictive relevance is usually used as a supplementary assessment of goodness-of-fit in partial least squares structural equation modelling (Duarte & Raposo, 2010).

Smart-PLS employs the blindfolding tool to calculate the Q2 measure; this tool uses a sample reuse technique that omits certain data points in the endogenous construct's indicators , and then the procedure attempts to predict the omitted data points (Chin, 2010; Hair et al., 2017; Ramayah et al., 2016). Blindfolding methodology omits

information from the data set depending on a predetermined separation value called D. The D value can be any number between 5-10 (Chin, 2010).

The main necessity is that the size of sample N divided by D ought to be a round number. In this way, the suspicion of evacuating measures of information and after that handle them as missing qualities will assess the model parameters. However, blindfolding should apply if the endogenous factors have measurements that are reflective (Chin, 2010; Hair et al., 2014). However, blindfolding only apply if the endogenous factors have measurements that are reflective (Hair et al., 2014), which is the case in the current study as Table 4.17 illustrates. According to Bagozzi (1994), if the value excess zero (Q2 > 0) show predictive relevance, while, a value of Q2 under zero implies that the model deficit predictive relevance. As per the table 4.17 below, it is demonstrated that all Q2 of the variables were above zero, which underpins the case that this investigation demonstrate has a satisfactory capacity.

Table 4.17
Predictive Relevance of the Endogenous Latent Variables

Construct	Validated Redundancy	Results
E-GA	0.449	Q2 > 0 Explanatory variable provides predictive relevance

4.6.2.3 The Goodness of Fit (GoF)

Tenenhaus, Vinzi, Chatelin, & Lauro (2005) defined GoF as *"The geometric mean of both the average variances extracted (AVE) and the average of R-square (R2) of the endogenous variables"*. GoF aims to justify the model in the study at structural and measurement models together, with an emphasis on the model's inclusive performance

(Henseler & Sarstedt, 2013). The equation 4.1 below displays the formula for calculation of GoF.

Equation 4-1

$$GOF = \sqrt{\overline{(R^2} * \overline{AVE)}}$$

Table 4.18
GoF Baseline Criteria

GoF small	0.1
GoF medium	0.25
GoF large	0.36

Wetzels, Schröder, & Van Oppen (2009) set GoF criteria to regulate whether the values ought to be large, medium, or small to be considered a valid PLS model. Table 4.18 above shows these criteria.

Table 4.19
Predicted Relevance of the Model

Item	R-Square		Ave	Gof
Information System Quality			0.692	
e-government adoption			0.791	
Public Effort Expectancy			0.738	
Public Facilitating Conditions			0.766	
Public Performance Expectancy			0.653	
Regulation Support	0.624		0.724	
Social Influence			0.743	
AVERAGE	**0.624**	*****	**0.730** =	**0.675**

Table 4.19 above showed the value of goodness of fit (0.675) for this model base on the large variance which clarified at a satisfactory high level.

4.6.2.4 Path coefficient (Hypothesis Testing)

The final step in evaluating the structural model is examining the research hypotheses by assessing the path coefficient through Smart-PLS program version 3.2.7. Each relationship between two latent variables (i.e. constructs) within the structural model represents a single hypothesis. The Smart-PLS analysis tools help to determine which one of those hypotheses (i.e. relationships) is significant or non-significant (Chin, 2010; Hair et al., 2017; Ramayah et al., 2016). The present study applied the standard bootstrapping procedure with a number of 5000 bootstrap samples to assess the significance of the path coefficients. This function calculates the empirical t-value for each relationship as a measure of the relationship significance. The empirical t-value is computed by dividing the relationship's path coefficient by its associated standard error (Hair et al., 2017). A relationship (i.e. a hypothesis) is considered significant if the empirical t-value exceeds the critical value at a certain level of significance, which is 1.96 (Chin, 2010; Hair et al., 2010; Hair et al., 2017)

However, instead of t-values, researchers recently report p-values that correspond to the probability of erroneously rejecting the null hypothesis, given the data at hand (Hair et al., 2017). According to Chin, (2010), p-value less than ($p>0.05$) specify that the hypothesis is supported, while p-value higher than ($p>0.05$) specify that this hypothesis is not significant (not supported). The smaller the p-value, the stronger the significance of the relationship will be. All the direct relationships in the study's model, their path coefficients, p-value and their empirical t-values are presented in Table 4.20 below and figure 4.3.

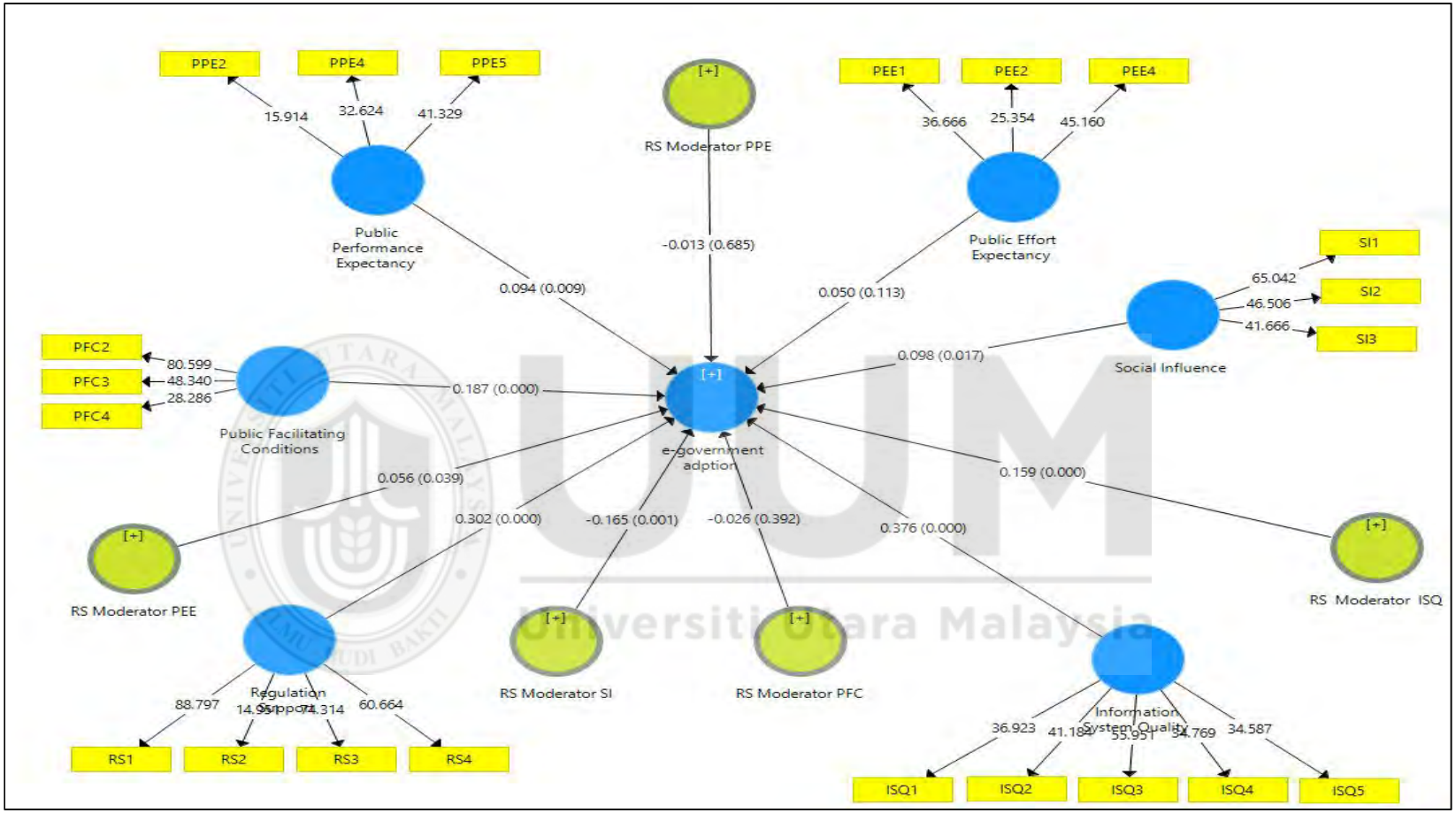


Figure 4.3
P-Values for The Research Model

Table 4.20
Hypothesis Testing

Hypothesis	Path coefficient	Standard Deviation	T Statistics	P-Values	Decision
ISQ -> E-GA	0.376	0.045	8.357	**0.000**	**Support**
PEE -> E-GA	0.050	0.031	1.585	0.113	Not Support
PFC-> E-GA	0.187	0.046	4.089	**0.000**	**Support**
PPE -> E-GA	0.094	0.035	2.613	**0.009**	**Support**
SI -> E-GA	0.094	0.036	2.383	**0.017**	**Support**

Note: (PPE = Public Performance Expectancy, PEE = Public Effort Expectancy, PFC = Public Facilitating Condition, SI = Social Influence, ISQ = Information System Quality, E-GA = E-Government Adoption).

With regards to the hypothesis test results shown in table 4.20 above, the hypothesis **Ha1, Ha2, Ha4,** and **Ha5** show significant results and can explain the e-government adoption among accountants in Iraq with a result of (0.000), (0.009), (0.0.17), and (0.000) p-values respectively. On the contrary, **Ha3** show a non-significant result which indicates that it cannot explain the e-government adoption among accountants in Iraq with a result of a p-value (0.113).

4.7 Moderator Effect

Regulations are set to ensure improved working structure and make the appointment technique less challenging and pass on the best approval; this research aims to explain the result identified regarding the moderation effect on e-government adoption. This section aims to analyse the following hypothesis's:

Ha6: The Regulation Support significantly moderates the relationship between Information System Quality and e-government adoption.

Ha7: The Regulation Support significantly moderates the relationship between Social Influence and e-government adoption.

Ha8: The Regulation Support significantly moderates the relationship between Public Effort Expectancy and e-government adoption.

Ha9: The Regulation Support significantly moderates the relationship between Public Performance Expectancy and e-government adoption.

Ha10: The Regulation Support significantly moderates the relationship between Public Facilitating Conditions and e-government adoption.

Table 4.21
Moderator Hypothesis Test

Hypothesis	Path Coefficient	Standard Deviation	T Statistics	P-Values	Decision
RS * ISQ -> E-GA	0.159	0.030	5.266	**0.000**	**Support**
RS * PEE -> E-GA	0.056	0.027	2.064	**0.039**	**Support**
RS * PFC -> E-GA	-0.026	0.030	0.856	0.392	Not Support
RS * PPE -> E-GA	-0.013	0.032	0.406	0.685	Not Support
RS * SI -> E-GA	-0.165	0.050	3.277	**0.001**	**Support**

Note: (PPE = Public Performance Expectancy, PEE = Public Effort Expectancy, PFC = Public Facilitating Condition, SI = Social Influence, ISQ = Information System Quality, RS = Regulation Support, E-GA = E-Government Adoption)

From Table 4.21, the result shows two hypotheses that are not significant (**Ha9**, and **Ha10**). In other words, Regulation Support does not moderate the relationship between (PPE and e-GA) where ($p=0.685$, $p>0.05$), and (PFC and e-GA) where ($p=0.392$, $p>0.05$).

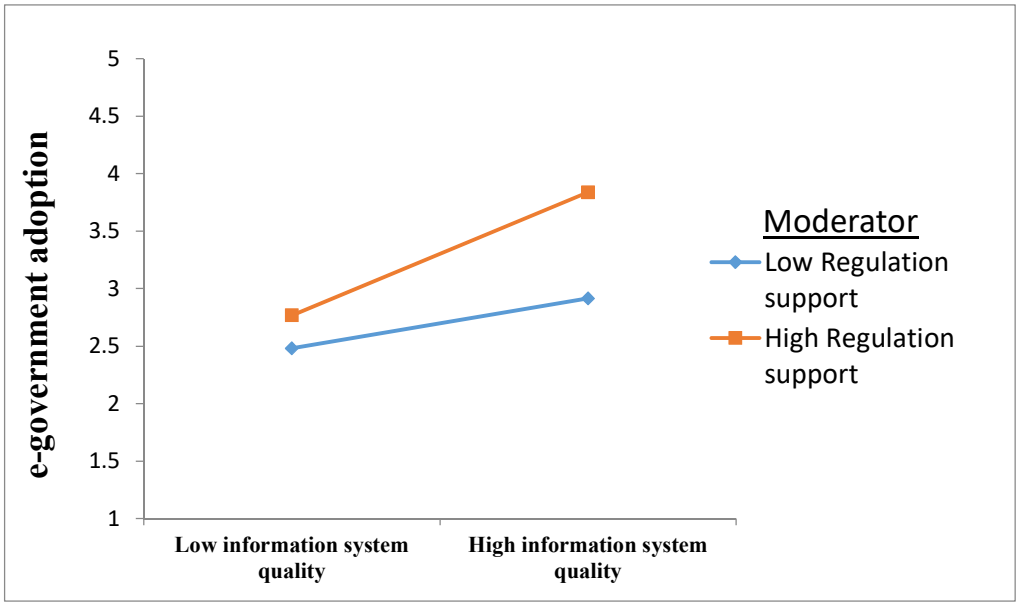


Figure 4.4
*RS*ISQ Moderating Effect on e-government Adoption*

Meanwhile, there is a significant and positive moderating role of Regulation Support between Information System Quality (p=0.000, p>0.05) to the e-government adoption. Figure 4.4 plotted the interaction pattern for hypothesis **Ha6**. The pattern in figure 4.4 shows that where Regulation Support strength the positive relationship between Information System Quality and e-government adoption.

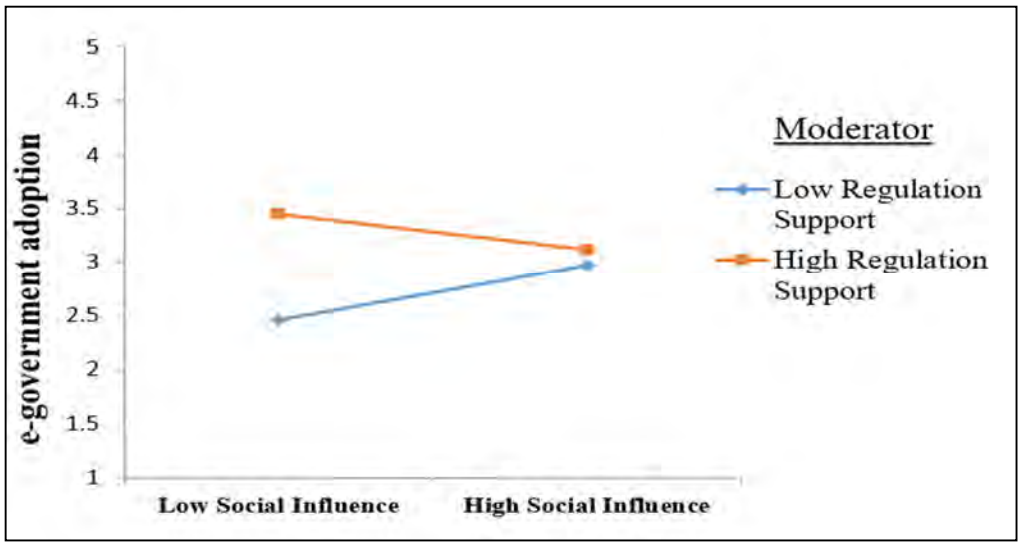


Figure 4.5
*RS*SI Moderating Effect on e-government Adoption*

Social Influence has significant and positive moderating role of Regulation Support between Social Influence (p=0.001, p>0.05) to the e-government adoption. Figure 4.5 plotted the interaction pattern for hypothesis **Ha7**. The pattern in figure 4.5 shows that where Regulation Support dampens the positive relationship between Social Influence and e-government adoption.

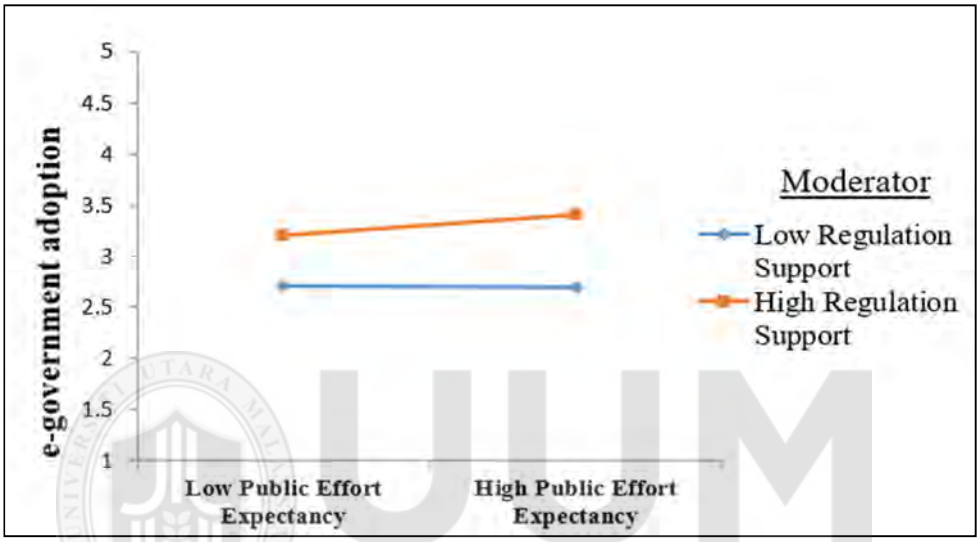


Figure 4.6
*RS*PEE Moderating Effect on e-government Adoption*

Public Effort Expectancy has significant and positive moderating role of Regulation Support between Public Effort Expectancy (p=0.039, p>0.05) to the e-government adoption. Figure 4.6 plotted the interaction pattern for hypothesis **Ha8**. The pattern in figure 4.6 shows that where Regulation Support strengthen the positive relationship between Public Effort Expectancy and e-government adoption.

4.8 Chapter Summary

This chapter illustrates the data analyses result and how the researcher conducts this analysis. Also, this research is applying two special programmed software SPSS for the demographic and e-government status analysis which is the first level of data

analysis while (the second level of analysis) analysed by using Smart-PLS. This research applies five main variable hypotheses, and the result shows four out of five significant and can explain the adoption of e-government among accountants in Iraq while the remaining one was non-significant. Also, this research hypothesised five moderating effects on the relationship between the Independent Variables and the Dependent Variable. The analysis results show three moderating relationships as significant and can affect the relationship between the independent and dependent variable.

CHAPTER FIVE
DISCUSSION, RECOMMENDATION, CONCLUSION, AND FUTURE RESEARCH

5.1 Introduction

Proposing and examining a model that predicts e-government adoption among accountants in Iraq (unstable contextual environments) is the prime objective of this study. In this chapter, the researcher will discuss the main finding illustrated in chapter four. This chapter displays the research objectives and discourses the pertinent areas covered in this study based on the objectives. Likewise, this chapter highlights the research implications practical and theoretical contributions respectively. The last sections will discuss the limitations of the study, suggestion for future research, and conclusion.

5.2 First Research Objective: Hypotheses Test Results

In this part, the main result of research hypothesises are discussed respectively. According to the first objective to investigate the critical determining factors of e-government adoption among accountants in Iraq.

5.2.1 Public Facilitating Condition

Facilitating conditions denotes the individuals believe that existing technical abilities and the infrastructure can support the usage of a system (Venkatesh et al., 2003). The accessibility of specialised technical assistance to aid natives with any trouble or issue that may hinder them from using a particular innovation could prompt surplus citizens fulfilment and satisfaction (Alshehri, 2012). Public Facilitating Conditions had a p-

value of (p=0.000, p>0.05) which signifies that it has an impact significantly on the adoption of e-government. This result is consistent with the findings of previous research, such as Hariguna (2017), El-Masri & Tarhini (2017), and Pal, Herath, De, & Rao (2018). However, this finding contradicts with the findings of Al-Shafi & Weerakkody (2010).

As indicated by Holzmann, Schwarz, & Audretsch (2018) and Macedo (2017), PFC have a significant effect on the adoption and technology use. This finding suggests that people who believe conditions in the surrounding environment is supportive have more grounded adoption level towards innovation. In other words, accountants who are provided with the essential support, knowledge, assets, and resources are more probable to utilise e-government.

5.2.2 Public Performance Expectancy

Performance expectancy aims for capturing the perceptions of users' regarding the degree to which using specific innovation can support the achievement of the anticipated goals (Venkatesh et al., 2012). In the e-government context, this represents the extent to which individuals distinguish the worth or potential e-government use (Alrawashdeh, 2011). Public Performance Expectancy had a p-value of (p=0.009, p>0.05) which signifies that it has a significant impact on e-government adoption. This finding is aligned with previous research of Hariguna (2017), Witarsyah et al. (2017), Abdulwahab & Dahalin (2010), El-Masri & Tarhini (2017), and Holzmann et al. (2018).

According to Al-Awadhi & Morris (2009), people are more likely to adopt any technological innovation that makes life easier. Furthermore, Holzmann et al. (2018) and Šumak & Šorgo (2016) stated that PPE execution anticipation fundamentally

influences the person's intention to utilise innovation. Accordingly, the choice concerning the reception is exceptionally affected by the apparent advantages that the innovation gives. In other words, accountants who have adequate knowledge about e-government benefits, they are most probable to use it.

5.2.3 Public Effort Expectancy

The ease level associated with system use is referred to as Effort Expectancy (Thompson et al., 1991). It is considered a governmental built effort to serve the community, such as e-government that is formed to ease the usage of public services (Venkatesh et al., 2003). PEE had a p-value of ($p=0.113$, $p>0.05$) which is non-significant and cannot explain the e-government adoption. The findings contradict with Al-Gahtani (2016), Cheung & Vogel (2013), Venkatesh et al. (2003), and Witarsyah et al. (2017). However, it is similar to the findings of Abdulwahab & Dahalin (2010), El-Masri & Tarhini (2017), Merhi (2015), Park (2009), and Sanakulov & Karjaluoto (2018).

As per Venkatesh et al. (2003) and Venkatesh & Zhang (2010), this may be a result of the convergence and development of technology in the new digital era. El-Masri & Tarhini (2017) further elaborated that with internet development citizens ability to operate the internet and related technologies has also evolved. As a result, citizens will no longer face any barriers or difficulty with using the technology in general. Consequently, the effect of PEE converts to non-significant for users with system usage experience, on the other hand, users who are not familiar with the system PEE is considered significant (Holzmann et al., 2018). Thus, in the context of this study PEE don’t play a central role in the decision for adoption, as 69% of the accountants in this research are experienced users who used the internet for more than five years.

5.2.4 Social Influence

Social Influence is the level that individual believes other people consider utilising the innovation vital to him/her, people's behaviour is affected by the surrounding important individuals to them and think that certain actions should or should not be followed (Chiu & Wang, 2008). Social Influence had a p-value of ($p=0.017$, $p>0.05$) which signifies that it has a significant impact on e-government adoption. Lallmahomed (2017) further illustrated that nearly half of the participants in his study could be motivated more to utilise innovation if their relatives or acquaintances had used them. This outcome is consistent with the findings of prior research, such as Al-Shafi & Weerakkody (2010), Abdulwahab & Dahalin (2010), and El-Masri & Tarhini (2017). Numerous previous research identified that friends, peer pressure, and family could impact the individual's tendency and motivation to adopt innovation with positive impact (Matsuo, Minami, & Matsuyama, 2018; Wang, Zhang, & Hann, 2018).

5.2.5 Information System Quality

The ISQ is a mixture of system quality and information quality concept. The ISQ is considered important in elevating public satisfaction regarding e-government services (Biddle et al., 2009). As found in previous IS literature, perceived benefits for preparers of information and perceived satisfaction for users had a noteworthy influence on the innovation usage intention (Dickinger et al., 2008; Venkatesh et al., 2003). Information System Quality had a p-value of ($p=0.000$, $p>0.05$) which signifies that it has a significant impact on the adoption of e-government. This finding is aligned with the findings of Witarsyah et al. (2017), Klischewski & Scholl (2008), and Rasool & Warraich (2018), who suggest that ISQ have a positive and significant influence on innovation adoption.

ISQ gives a huge impact on public perceptions of e-government, where it improves credibility and usability of the e-government services performance. This will, in turn, impact the public satisfaction levels, as well as perceptions of usefulness, confirmation of public expectations, and public intention use towards e-government (Hariguna, 2017; Hariguna et al., 2017). When quality improvement of e-government exists, a significant impact on the public service will be resultant, and consequently benefits will be experienced across all e-government users (Hariguna, 2017; Palea, 2014; Ritchi et al., 2016; Bolivar et al., 2007; Sharma & Crossler, 2014).

5.3 Second Research Objective: Moderator Effect

Innovation acceptance is influenced by some of the variables in the external environment, for instance, government control and data force (Oliveira & Martins, 2011). Regulations are set to ensure improved working structure and make the appointment technique less challenging and pass on the best approval of technology adoption which can depict an advantageous result (Ali et al., 2015; Kuan & Chau, 2001; Oliveira & Martins, 2011; Zhu et al., 2006; Zhu & Kraemer, 2005).

5.3.1 RS moderating ISQ and E-GA

Biddle, Hilary, & Verdi (2009) stated the financial reporting intention is to "*Offer and deliver high-quality and valuable financial information concerning economic entities, for the end users, that information is useful for financial decision making*". Government regulation implies the support attained from the authorities to convince an increased in the adoption of IS innovations (Kuan & Chau, 2001). Regulations are formulated to ensure a better system and process for the adoption demonstrating the positive effect (Ali et al., 2015).

The research tests indicate that there is a significant and positive moderating role of Regulation Support between Information System Quality to the adoption of e-government with a p-value of (p=0.000, p>0.05). This result is supported by Tornatzky, Fleischer, & Chakrabarti (1990), Baker (2012), Oliveira & Martins (2011), and Ali et al. (2015), regulation is one of the factors that influence technology adoption, the presence of government regulation may support or hinder innovation in an organisation. Research on the Financial Electronic Data Interchange found that coercive pressure from a parent corporation resulted in better innovation adoption by its subsidiary corporation (Teo, Wei, & Benbasat, 2003).

5.3.2 RS moderating SI and E-GA

Social influence is situations that shapes how, when, and why individuals will be motivated to act in various ways. They represent the process whereby the society or organisation socialises and controls its members, and the members advocate policies (Aguilera, Williams, & Rupp, 2011; Kelman & Hamilton, 1989). The study result shows that the relation between Social Influence and the adoption of e-government through the moderation of Regulation Support had a p-value of (p=0.001, p>0.05), which indicates a significant moderation effect.

This result is consistent with the finding of Gill, Crosby, & Taylor (1986), Nasri & Charfeddine (2012), and Tariq & Mat (2017), they highlight the person's beliefs and motivation to comply with regulations increase when the government support has a significant and positive influence on behaviour. According to Al-Mansoori (2017), regulation is an empowering factor that could act as a real affecter on the behaviour, accordingly affecting individuals decision for adoption directly. Lallmahomed et al. (2017) further illustrated that nearly half of the participants in his study could be more

driven to use innovations if other relatives had used them. While Al-Awadhi & Morris (2009) further indicated that not only family could influence behaviour, a quarter of participants in the study were influenced by people using the services who said adopting the technology made their life easier. In summary, by imposing governments regulations, the regulation promotes and encourage an individual's incentive, which, in turn, effects the motivation for the surrounding people to adopt the technology (Al-Mansoori, 2017; Al-Awadhi & Morris, 2009; Gill et al., 1986; Lallmahomed et al., 2017; Nasri & Charfeddine, 2012; Tariq & Mat, 2017).

5.3.3 RS moderating PEE and E-GA

The usage ease perceived by a person from operating certain innovation reflects PEE (Payne & Curtis, 2008). The partial or total lack of necessary laws and regulation were identified as common problems for innovation adoption, especially in some developing countries that have no clear regulations and legislation (Abdullah, Rogerson, Fairweather, & Prior, 2006; AlGhamdi, Drew, & Alkhalaf, 2012; Nugroho, 2015).

In this study, Regulation Support shows a significant moderating effect on the relationship amid Public Effort Expectancy and adoption of e-government with a p-value of ($p=0.039$, $p>0.05$). Regulations do not affect system adoption, but maybe it will affect employee's motivation to using it (Abdullah et al., 2006). This result is supported by Al-Awadhi & Morris (2009) and Nugroho (2015), citizens adopted the technology that made their life easier. Furthermore, it is highly important to provide laws and regulations, that are necessary to any innovation adoption that requires transactions over the Internet, especially in developed countries to protect the rights of all participants (Abdullah et al., 2006; AlGhamdi et al., 2012; Alsharif, 2013; Nugroho, 2015).

5.3.4 RS moderating PPE and E-GA

The confidence of an individual that utilising an individual system can permit improved working interpretation is referred to as PPE (Payne & Curtis, 2008). Although the regulations do not affect system adoption, maybe it will affect employee's motivation to using it (Abdullah et al., 2006). The respondents from Nugroho's (2015) study expressed different opinions about the role of the mandatory regulation in e-Procurement system use. All of them considered that the regulation acted as a tool, rather than as the main enabler of adoption.

In this study Regulation, Support had a non-significant moderating influence on the relationship amid Public Performance Expectancy and e-government adoption and had a p-value of ($p=0.685$, $p>0.05$). The results of this study contradict with AlAwadhi & Morris (2009). However, this result is supported by Nugroho (2015), according to the study results regulation was not the main factor in adoption. In other words, the e-government system had been adopted by citizens and employees before the government regulation was approved. This result is identical in the case of Iraq, where the government are on the way of developing new regulation in 2017 to support e-government since its official launch in 2003 (Al-Azzawy, 2017). Separately from setting the regulations solely, governments must also promote and encourage the behaviour. As a consequence, citizens have to align their choices with government guidelines and peruse the alternatives offered by the government (Sheth & Frazier, 1982; Tariq & Mat, 2017).

5.3.5 RS moderating PFC and E-GA

The perception of an individual that the technical and organisational infrastructure can aid in operating certain technological innovation is referred to PFC (Payne & Curtis, 2008). This aspect is linked to the help or responsibility of government as far as setting up and maintaining the program or service. Similarly, as governments are typically the policy maker, financier, and initiator of the programme sustainability; this factor is related with policies set by the government (Obaji et al., 2015). Government intervention and regulations affect customers' behavioural intentions to adopt certain technologies (Barksdale & Darden, 1972; Jain & Goel, 2012; Kaynak, Kucukemiroglu, & Hyder, 2000).

The moderator Regulation Support on Public Facilitating Conditions and e-government adoption had a p-value of ($p=0.392$, $p>0.05$) which signifies that it has no significant moderation impact. Although it is identified in the prior literature that RS has a significant moderating role in the relationship amid system adoption and financial aid (Venables, 2016). However, the role of the moderator can only be significant with high financing from the government. This can be illustrated further by viewing the government as the resource suppliers. Certainly financing is the development key, and its deficiency or absence will lead to the programming failure (Obaji et al., 2015).

Insufficient RS and financial resources toward adoption of the system can damage the performance, while supportable user-friendly policies will take the programme to a greater height over a long period (Jamel & Pusatli, 2016; May, 2005; Obaji et al., 2015; USAID, 2016; Venables, 2016). This highly supports this research finding, as there are many challenges and barriers faced by Iraq government to build a successful e-government services system and the very poor IT infrastructure in Iraq is one of them.

Furthermore, Iraq lacks stakeholder and investors due to the unstable political condition. Therefore, companies are not investing in building the ICT infrastructure, and government does not have enough workforce, resources, and money (Al-Taie & Kadry, 2013; Al-Azzawy, 2017; Jabbar, Othman, & Ramasamy, 2013; Zhao, Scavarda, & Waxin, 2012).

5.4 Third Research Objective: Current Stage of e-government in Iraq

As indicated in the literature, a gap has been identified between the efforts of both the government and researchers along the actual development and efficiency of the e-government in Iraq. This section aims to analyse this issue from the perspective of accountants all over Iraq. The researcher used the dichotomous scale to obtain "yes" or "no" data form respondent (Lallo, 2012). Respondents were asked to discourse information related to the services of e-government in conflicts and unstable environment using eight questions.

At first, respondents were asked whether they are conscious about the availability of the service in Iraq. Most of the respondents are aware of the service. However, 25% are yet unaware of this service; this 25% represent 100 out of 400 respondents. Even though the e-government service initiative began in 2003, yet in 2018 not all employees in the country are aware of the service. That being said, 75% of the respondents are aware of the service being available in Iraq which represent 300 respondents out of 400. This indicates that knowledge about the availability of the services in Iraq has not been widespread among all the Iraqi employees. According to Al-Azzawy (2017), a governance concept is required to achieve the successful implementation of e-governance model in Iraq to boost its economy, literacy rate, and citizen awareness.

Also, the lack of mandatory adoption could also have impacted the successful adoption of the service (Kimani et al., 2015).

Second, respondents were asked whether they are satisfied with the available e-government service in Iraq. Most of the respondents are satisfied with the service; those represent 54% and 216 of the total sample size. Consequently, 46% are unsatisfied with this service; this 46% represent 184 out of 400 respondents. The government of Iraq could work on expanding the businessmen and citizens areas of participation, which aid in developing an innovative Iraqi economy based on knowledge. In order to obtain the complete e-government potential, a reform of the government administrative structure, management operations, and information must be conducted (Mohammed et al., 2013). Furthermore, the lack of regulation supporting the citizens and guiding the service operation could have also impacted the user's satisfaction with the service (Nugroho, 2015).

Third, the respondent has been asked whether they are aware of the e-government service benefits provider in Iraq. Most of the respondents are aware of the service benefit; those represent 79% of the total sample size, which in turn represent 316 out of 400. However, 21% are yet unaware of the service benefits; this 21% represent 84 out of 400 respondents. Which, in turn, show that it is important to change the mindset and plan of action employee in public administration follow to increase the benefit awareness (Mohammed et al., 2016). The fourth question shows that 84% of the total respondents believe that e-government service could reduce the work routine. Most of the respondents believe that the service has the benefit to reduce work routine, those represent 336. However, 16% disagree and believe that the service does not reduce the work routine, this 16% represent 64 out of 400 respondents. According to the Iraqi

Development Plan, the government works continuously to improve the e-government project (Abdul-Alrahman, 2011). Which, in turn, indicate that the relative benefit of using the service is new to the citizens due to the limited number of studies on e-government in Iraq, leading to limited awareness among citizens (Al-Azzawy, 2017).

The respondent has been asked in the fifth question whether they believe that e-government service in Iraq could reduce the costs. Most of the respondents agree that the service could reduce the costs, those represent 93% of the total sample size, which in turn represent 372 out of 400. On the other hand, 7% of the respondents disagree with this statement and believe that using e-government service may not cut costs; the 7% represent 28 out of 400 respondents. The sixth question shows that 80% of the total respondents believe that e-government service in Iraq reduces the workload by completing transaction rapidly. Most of the respondents believe that the service has the benefit to reduce working time, those represent 321. 20% disagree and believe that the service may not reduce the workload and decrease transactions time, this 20% represent 79 out of 400 respondents. This can identify that most of the accountants in Iraq are aware of the fact that converting information-based processes and services to digital and online materials reduces processing costs, inefficiencies, errors, and constraints to sharing, and saves much time (Al-Taie & Kadry, 2014).

In the seventh question, respondent has been asked whether they believe that e-government service in Iraq is flexible. Most of the respondents agree that the service is not flexible, those represent 55% of the total sample size, which in turn represent 220 out of 400. On the other hand, 45% of the respondents disagree with this statement and believe that e-government service is flexible, the 45% represent 180 out of 400 respondents. This finding reflects the new effort conducted by the Iraqi government in

paying more attention to set up a more reliable e-government service and infrastructure for their staff and citizen in 2017 (Al-Azzawy, 2017). Finally, in the eighth question respondents were asked whether Internet speed affect e-government service in Iraq. Most of the respondents are not satisfied with the internet speed and believe it affects, those represent 83% of the total sample size, or 332 in frequency terms.

Consequently, only 17% are satisfied with the internet speed; this 17% represent 68 out of 400 respondents. This highlights the absence of an effective ICT infrastructure, access to the Internet in Iraq is still very slow and expensive. It is also unreliable because of the poor telephone communications and the inadequate power supply, as the total production of electricity in Iraq by 2010 was 48.96 billion kWh against 55.66 billion kWh of consumption, with 6.7 billion kWh being imported from neighbouring countries (Alshehri & Drew, 2010a). As indicated by the Internet Society Organization, contrasted with the world the lowest speed for mobile download is in Iraq, out of 144 countries Iraq ranks the last with a speed of download 0.08 Mbps (AlAzzawy, 2017; Haddad & Rossotto, 2017; Internet Society Organization, 2017).

5.5 Research Implications

Various insights have been presented in this research related to e-government context, which shapes an advantageous insight into the adoption of e-government among Iraqi accountants. This study may contribute and add something to the limited researches that studied e-government particularly in Iraq and the Middle East in general.

5.5.1 Practical Contribution

The result of this study participates to several practical contributions. The researcher found limited studies that focus on the adoption of e-government among accountants in

Iraq. Given the nature of study, adopting and modifying the UTAUT theory is vastly needed. The UTAUT supports explaining the present adoption of e-government phenomenon, with a focus on the variables that might encourage the Iraqi employees to utilise the public e-services bundle delivered over the e-government portal.

As e-government implementation and development is relatively slow, the current research emphases on expanding the knowledge body of the Iraqi e-government. First, this research can direct the planners of e-government in Iraqi into considering the aspects that assist the achievement of a fruitful adoption for numerous citizens groups. Efficient services can be obtained by making the most of ICT infrastructure investments and providing productive e-government adoption using ICT infrastructure developed especially for Iraq and not adopting ICT infrastructure of developed nations. Therefore, this study is one of the comprehensive studies that offer information about the indicator regarding the adoption of e-government in Iraq.

Second, in the growing e-government field and the adoption of e-government in Iraq, a contribution effort to fill the literature gap can be found in this research. As there are barely any public studies that examine factors that influence accountants adoption of e-government services in Iraq. Also, the result of this study shows that the factors SI, ISQ, PFC, PPE have a significant relationship with the adoption of e-government. Hence, the study provides important information about factors that need to be addressed by the government in developing countries, especially Iraq, to foster the e-government development, since the Iraqi service is still in the early stages of adoption (UNDP Iraq, 2017).

Third, as the Iraqi government currently is paying more attention to set up a reliable e-government infrastructure for their staff and citizen, such as the role of law,

participation, transparency, responsiveness (Al-Azzawy, 2017). The current study was meant to guide academics generally, and particularly policymakers by providing indications resulting from this research to level up the understanding of the regulation support effect on e-government among Iraqi employees. The government should specify a quality regulation and a governance framework. When quality improvement of e-government exists, a significant impact on the public service will be resultant, and consequently, benefits will be experienced by the public, business and government users. Thus, the government funds and investment efforts in developing and at the same time monitoring the e-government service will be more efficient and effective (Kimani et al., 2015; May, 2005; Tariq & Mat, 2017).

5.5.2 Theoretical Contribution

An explanation on why people use the services of e-government is provided by the UTAUT framework (Slade et al., 2015). As noted previously, the framework is commonly used in studies investigating adoption attitudes of the public individual's. Consequently, the new framework version, which amends the UTAUT to suit the new contextual environment, is the key theoretical contribution of the research. The amended model was framed to fit the e-government initiative context projected for the Republic of Iraq. The current study was conducted on accountants in the Republic of Iraq. The current study adopted a quantitative method in order to achieve the research objectives, along with five main hypotheses and five moderating hypotheses. The results of the relationship between the UTAUT variables shows four variables of the framework to have a significant relationship with the e-government adoption. Those variables represent, Information System Quality, Social Influence, Public Facilitating Condition, and Public Performance Expectancy. Also, three moderation relationship between

Regulation support and Information System Quality, Regulation support and Social Influence, Regulation Support and Public Effort Expectancy, to e-government adoption were found to be significant. Hence, the present study provides a successful extension to the UTAUT model to developing and unstable countries such as Iraq.

5.6 Limitation of The Study

The lack of e-government literature in Iraq and the middle east was a challenge in terms of conducting a comparative rational discussion. It was similarly hard to contrast this research and other comparative studies from a similar district. Most accessible studies consider examining e-government from a demand perspective within stable nations, focusing on examining different perspective and by adopting different models. In any case, this typically displays the uniqueness of this research within this region of the world. The prime limitation in carrying out this research was the sample in this questionnaire-based survey.

This research population included and studied Iraqi employees only. However, it is imperative to highlight that this research results can be generalised. Moreover, any recommendation can be re-applied to any nation with a similar requirement. Also, this research utilised a quantitative methodology only, but particularly about the moderating factor, qualitative methodology research can produce further insights into the findings.

5.7 Suggestion for Future Research

This research was aiming to discover fitting factors for enhancing the acknowledgement and utilisation of the present e-government in the Republic of Iraq. The researcher recommends that further related examinations ought to be conducted later on to look at the reception of service utilisation by expatriates. This may recognise new and

alternative variables that may influence the appropriation, dissemination, and utilisation of e-service other than the variables in this examination. This examination has inspected the appropriation of e-government among accountants in the Iraqi public associations. Future research could utilise the applied model created in this research to look at the employee's point of view regarding the utilisation and adoption of e-government in different nations with unstable contextual environment.

The research questions have been answered in the current research as expected, but it also raises additional ones, which may be further studied. These consist of whether performance expectancy toward the adoption of other services can be affected by the use of mandatory regulations and vice versa. The moderation test results have provided insights that can be investigated further; for example, the findings show that the effect of regulation is not efficient due to the lack of regulations and financial support. Future studies could be conducted to further study the level of e-government services usage effect, especially in developing Arab countries that lack basic infrastructure.

5.8 Conclusion

In the public administration domain from the pool of ICT applications e-government has been developed. Its purpose is providing timely, comprehensive, and remote services through online access to the public. Such services have been facilitated through the use, adoption, and management of big data and received user transactions by the e-government control centre. The researcher argues in this research that e-government benefits realisation depends critically and heavily on the satisfaction of employees with their user experience. Despite the fast e-government practice and research development, the challenges raised in the problem related to the non-frequent e-government services

use due to the absence of ICT infrastructure, for citizens in developing nations, has not been deliberately considered in the e-government literature.

In the quest to provide a wide range of socio-economic benefits for citizens in developing countries (such as Iraq), e-government services adoption is considered critical. Unfortunately, most of the ICT connected with the e-government service has been produced in developed nations to meet their social, cultural, economic, and financial needs. Whereas, developing nations governments ought to re-customize the tools of e-government from western based into local in order to cope with their actual citizens' requirements (Abdullah et al., 2006), and particularly in conflicted environment (Al-Gahtani et al., 2007; Kamau, 2017; Rose et al. , 2015).

This empirical research aims to fill this gap by utilising the UTAUT as a grounded model along with amending the variables to accomplish a better theoretical explanation of e-government use and acceptance in developing countries under unstable environment. The original UTAUT model has been modified in this research with a focus on the accountant's perspective and amending it theoretically by integrating the concepts of both Information System Quality, and moderation effect of Regulation Support. To examine this model validity, online questionnaire survey containing thirty-six questions was circulated to 400 respondents to measure e-government services adoption among them. The research results illustrated and strong statistical evidence for highly significant relationships between four independent variables and e-government adoption. However, significant statistical linkage was not found regarding one independent variable which is Public Effort Expectancy and e-government services adoption. The quantitative analysis of the collected data validates the proposed conceptual model within the context of Iraq significantly. The finding from this study

also shows that accountants in Iraq perceived that the portal they have are not flexible and they are not satisfied with the service. However, they have limited knowledge of the newly utilised funds provided by the government. Where the government are on the way of developing new regulation in 2017 to support e-government since its official launch in 2003 (Al-Azzawy, 2017).

References

Abdelghaffar, H., & Magdy, Y. (2012). The adoption of mobile government services in developing countries: The case of Egypt. *International Journal of Information*, *2*(4), 333–341.

Abdul-Alrahman, A. A. (2011). Human Resources Investment as an Introduction to improve the efficiency & activity of workers in E-Government. *Journal of the Planner and Development*, *24*, 1–17.

Abdullah, A., Rogerson, S., Fairweather, N. Ben, & Prior, M. (2006). *The motivations for change towards e-government adoption: Case studies from Saudi Arabia.* In E-government Workshop (Vol. 6, pp. 1–21).

Abdulrahman, S. H., Kamaruddin, S. S., & Othman, N. (2018). The status of government to citizens ict services in iraq under the impact of man-made disaster. *Journal of Information*, *3*(9), 1–15.

Abdulwahab, L., & Dahalin, Z. M. (2010). A conceptual model of Unified Theory of Acceptance and Use of Technology (UTAUT) modification with management effectiveness and program effectiveness in context of telecentre. *African Scientist*, *11*(4), 267–275.

Abramson, M. A., & Means, G. (2001). *E-government 2001.* The Price water house Coopers endowment series on the business of government. Rowman & Littlefield.

AbuShanab, E., & Pearson, J. M. (2007). Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective. *Journal of Systems and Information Technology*, *9*(1), 78–97.

Adulwahab, L., & Dahalin, Z. M. (2011). Effectiveness of telecentre using a model of unified theory of acceptance and use of technology (UTAUT): structral equation modeling approach. *Journal of Emeging Trends in Computing and Information Sciencess*, *2*(9), 402–406.

Afthanorhan, A., Ahmad, N., & Sabri, A. (2015). A parametric approach using z-test for comparing 2 means to multi-group analysis in partial least square structural equation modeling (PLS-SEM). *British Journal of Applied Science & Technology*, *6*(2), 194.

Afthanorhan, A., Nazim, A., & Ahmad, S. (2014). A parametric approach to partial least square structural equation modeling of multigroup analysis (PLS-MGA). *International Journal of Economic, Commerce, and Management*, *2*(10), 15.

Agarwal, R., & Prasad, J. (1999). Are individual differences germane to the acceptance of new information technologies? *Journal of Decision Sciences*, *30*(2), 361–391.

Aguilera, R. V, Williams, C. A., & Rupp, D. E. (2011). Increasing corporate social responsibility through stakeholder value internalization (and the catalyzing effect of new governance): An application of organizational justice, self-determination,

and social influence theories. *Managerial ethics* (pp. 87–106). Routledge.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211.

Åke Grönlund. (2010). Ten Years of E-Government: The 'End of History' and New Beginning. *International Federation for Information Processing*.

Al Azzawy, D. S. (2017). Review on Challenges in Building Knowledge based Societies through E-Governance Framework: Technology and Management Issues from Global Perspective. *Indian Journal of Science and Technology*, *10*(28).

Al Mansoori, K. A. (2017). *Use of a modified UTAUT model to investigate Emirati Citizens' adoption of e-Government in Abu Dhabi*. (Doctorate Thesis), Faculty of Business, University of Wollongong in Dubai.

Alaaraj, H. K. (2015). *The mediating effect of good governance on the relationship between e-government and public trust in Lebanon.*(Doctorate Thesis), Universiti Utara Malaysia.

AlAwadhi, S., & Morris, A. (2008). *The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait*. In Hawaii International Conference on System Sciences, Proceedings of the 41st Annual (p. 219). Ieee.

AlAwadhi, S., & Morris, A. (2009). Factors influencing the adoption of e-government services. *Journal of Software*, *4*(6), 584–590.

Al-Azawei, A., Parslow, P., & Lundqvist, K. (2016). Barriers and opportunities of e-Learning implementation in Iraq: A case of public universities. *The International Review of Research in Open and Distributed Learning*, *17*(5).

Al-Dabbagh, M. (2011). *Electronic Government in Iraq: Challenges of development and implementation*. (Master Disertation), Swedish Business School at Örebro University.

AlEnezi, A., AlMeraj, Z., & Manuel, P. (2018). *Challenges of IoT Based Smart-Government Development*. In Green Technologies Conference (GreenTech), *2018* (pp. 155–160). IEEE.

Alenezi, H., Tarhini, A., Masa'deh, R., Alalwan, A., & Al-Qirim, N. (2017). Factors Affecting the Adoption of e-Government in Kuwait: A Qualitative Study. *Electronic Journal of E-Government*, *15*(2).

Al-Gahtani, S. S. (2016). Empirical investigation of e-learning acceptance and assimilation: A structural equation model. *Applied Computing and Informatics*, *12*(1), 27–50.

Al-Gahtani, S. S., Hubona, G. S., & Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT. *Information & Management*, *44*(8), 681–691.

AlGhamdi, R., Drew, S., & Alkhalaf, S. (2012). Government initiatives: The missing key for e-commerce growth in KSA. *ArXiv Preprint ArXiv:1211.2398*.

Ali, O., Soar, J., McClymont, H., Yong, J., & Biswas, J. (2015). *Anticipated benefits of cloud computing adoption in Australian regional municipal governments: an exploratory study.* In Proceedings of the 19th Pacific Asia Conference on Information Systems (PACIS 2015) (pp. 1–18). University of Southern Queensland.

Ali, O., Soar, J., Yong, J., McClymont, H., & Angus, D. (2015). *Collaborative cloud computing adoption in Australian regional municipal government: An exploratory study.* In Computer Supported Cooperative Work in Design (CSCWD), 2015 IEEE 19th International Conference on (pp. 540–548). IEEE.

Al-Qeisi, K. I. (2009). *Analyzing the use of UTAUT model in explaining an online behaviour: Internet banking adoption.* (PhD Thesis), Brunel University Brunel Business School.

Alrawashdeh, T. A. (2011). *The Extended UTAUT Acceptance Model of Computer-Based Distance Training System Among Public Sector's Employees in Jordan*. (Doctorate Thesis), Universiti Utara Malaysia.

Al-Sammarraie, M. K. F., Faieq, A. K., & Al-Qasa, K. (2016). *An instrument design to measure the sustainability of technology in risky environments: Case study of Iraq*. In AIP Conference Proceedings (Vol. 1761, p. 20017). AIP Publishing.

Al-Shafi, S., & Weerakkody, V. (2010). *Factors affecting e-government adoption in the state of Qatar*. European and Mediterranean Conference on Information Systems.

Alsharif, F. F. (2013). *Investigating the factors affecting on-line shopping adoption in Saudi Arabia*. (PhD Thesis), De Montfort University.

Al-Shboul, M., Rababah, O., Ghnemat, R., & Al-Saqqa, S. (2014). Challenges and factors affecting the implementation of e-government in Jordan. *Journal of Software Engineering and Applications*, *7*(13), 1111.

Alshehri, M. A. (2012). *Using the UTAUT model to determine factors affecting acceptance and use of e-government services in the kingdom of Saudi Arabia.* (PhD Thesis), Griffith University.

Alshehri, M., & Drew, S. (2010a). Challenges of e-government services adoption in Saudi Arabia from an e-ready citizen perspective. *World Academy of Science, Engineering and Technology*, *66*, 1053–1059.

Alshehri, M., & Drew, S. (2010b). *E-Government fundamentals*. In IADIS International Conference ICT, Society and Human Beings.

Alshehri, M., Drew, S., & Alfarraj, O. (2012). A Comprehensive Analysis of E-government services adoption in Saudi Arabia: Obstacles and Challenges. *International Journal of Advanced Computer Science and Applications*, *3*(2), 1–6.

Alshehri, M., Drew, S., & AlGhamdi, R. (2013). Analysis of citizens acceptance for e-government services: Applying the UTAUT model. *ArXiv Preprint ArXiv:1304.3157*.

Alshehri, M., Drew, S., Alhussain, T., & Alghamdi, R. (2012). The Effects of Website

Quality on Adoption of E-Government Service: AnEmpirical Study Applying UTAUT Model Using SEM. *ArXiv Preprint ArXiv:1211.2410*.

Al-Sobhi, F., Weerakkody, V., & El-Haddadeh, R. (2011). *The relative importance of intermediaries in egovernment adoption: A study of Saudi Arabia*. In International Conference on electronic government (pp. 62–74). Springer.

Al-Sobhi, F., Weerakkody, V., & El-Haddadeh, R. (2011). The roles of intermediaries in e-government adoption: the case of Saudi-Arabia. In *tGov Workshop, London*.

Alsohybe, N. T. (2007). *The implementation of e-government in the Republic of Yemen: An empirical evaluation of the technical and organizational readiness.* (Doctoral Dissertation), Capella University.

Al-Taie, M. Z., & Kadry, S. (2013). E-Government: Latest Trend and Future Perspective The Iraq Case. *Editors-in-Chief*, 307.

Al-Taie, M. Z., & Kadry, S. (2014). E-Government: Latest Trend and Future Perspective The Iraq Case. *European Journal of Scientific Research*, 17.

Alves, M. do C. G. (2017). Perspectives on Accounting Information Use: A Multiple Case Study. *International Business Management*, *11*(6), 1316–1327.

Alvesson, M., & Kärreman, D. (2007). Constructing mystery: Empirical matters in theory development. *Academy of Management Review*, *32*(4), 1265–1281.

Al-Zuabi, H., & Mahmud, M. (2011). *Implementation of e-Government in Arab countries: A literature review.* In Research and Innovation in Information Systems (ICRIIS), 2011 International Conference on (pp. 1–5). IEEE.

Appelbaum, D., Kogan, A., Vasarhelyi, M., & Yan, Z. (2017). Impact of business analytics and enterprise systems on managerial accounting. *International Journal of Accounting Information Systems*, *25*, 29–44.

Assar, S., Boughzala, I., & Boydens, I. (2011). Back to practice, a decade of research in E-government. In *Practical studies in e-government* (pp. 1–12). Springer.

Avison, D., & Wood-Harper, T. (2003). Bringing social and organisational issues into information systems development: the story of multiview. *Socio-Technical and Human Cognition Elements of Information Systems*, 5–21.

Azeez, H. H. (2014). An Online Intelligent System to Selecting the New Employees for Directorate of Education in Dhi-Qar. *International Journal of Computer Science and Mobile Computing*.

Bagozzi, R. P. (1994). Advanced methods of marketing research. *Cambridge, MA. Blackwell Business*.

Bagwell, K., Staiger, R. W., & Yurukoglu, A. (2018). *Quantitative Analysis of Multi-Party Tariff Negotiations*. National Bureau of Economic Research.

Baker, J. (2012). The technology–organization–environment framework. In *Information systems theory* (pp. 231–245). Springer.

Barac, K. (2009). South African training officers' perceptions of the knowledge and skills requirements of entry-level trainee accountants. *Meditari Accountancy Research*, *17*(2), 19–46.

Barksdale, H. C., & Darden, W. R. (1972). Consumer attitudes toward marketing and consumerism. *The Journal of Marketing*, 28–35.

Bashar, M. R., Razael, K. M., & Grout, V. (2011). *E-Government vs. Ordinary Bureaucratic Government: A Comparative Study.* The 4th International Conference on Internet Technologies and Applications, Glyndwr University.

Battaglia, M. (2008). Encyclopedia of survey research methods. *Publication Date*.

Beest, F. van, Braam, G. J. M., & Boelens, S. (2009). *Quality of Financial Reporting: measuring qualitative characteristics*. Nijmegen Center for Economics (NiCE) Institute for Management Research Radboud University Nijmegen.

Bello, I. E., & Ufuah, M. E. (2018). Theoretical Framework And Its Relevance To Geographic Studies: An Application Of Innovation Diffusion Theory In CWM. *American Journal of Geographical Research and Reviews*, *2*.

Ben Abdelkader, I., Hathroubi, S., Jemaa, B., & Mekki, M. (2012). Microfinance Institutions' Efficiency in the MENA region: a Bootstrap-DEA approach.

Bernard, H. R. (2017). *Research methods in anthropology: Qualitative and quantitative approaches*. Rowman & Littlefield.

Berry, J. W. (1980). *Introduction to methodology.* HC Triandis, JW Berry, eds. Handbook of Cross Cultural Psychology, Vol. 2. Allyn and Bacon, Boston, MA.

Bharath, S. T., Sunder, J., & Sunder, S. V. (2008). Accounting quality and debt contracting. *The Accounting Review*, *83*(1), 1–28.

Bhuiyan, S. H. (2011a). Modernizing Bangladesh public administration through e-governance: Benefits and challenges. *Government Information Quarterly*, *28*(1), 54–65.

Bhuiyan, S. H. (2011b). Trajectories of e-government implementation for public sector service delivery in Kazakhstan. *International Journal of Public Administration*, *34*(9), 604–615.

Biasiotti, M. A., & Nannucci, R. (2006). E-Government and legal education in Italy. *Journal of Infonnation, Law and Technology*, *2*.

Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics*, *48*(2–3), 112–131.

Birch, A., & Irvine, V. (2009). Preservice teachers' acceptance of ICT integration in the classroom: applying the UTAUT model. *Educational Media International*, *46*(4), 295–315.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-*

Cultural Psychology, *1*(3), 185–216.

Brislin, R. W. (1980). Translation and content analysis of oral and written materials. *Methodology*, 389–444.

Bwalya, K. J., Zulu, S. F., Grand, B., & Sebina, P. M. (2012). e-Government and Technological Utopianism: Exploring Zambia's Challenges and Opportunities. *Electronic Journal of E-Government*, *10*(1), 16.

Chadwick, A., & May, C. (2003). Interaction between States and Citizens in the Age of the Internet:"e-Government" in the United States, Britain, and the European Union. *Governance: An International Journal of Policy, Administration, and Institutions*, *16*(2), 271–300.

Chaffey, D., & White, G. (2005). *Business information management*. Financial Times Prentice Hall.

Chandrasekhar, C. (2007). E-government : Overview. *National Institute for Smart Government*.

Chatfield, A. T., & Alhujran, O. (2009). A cross-country comparative analysis of e-government service delivery among Arab countries. *Information Technology for Development*, *15*(3), 151–170.

Chen, L. S.-L., Kuan, C. J., Lee, Y.-H., & Huang, H.-L. (2011). *Applicability of the UTAUT model in playing online game through mobile phones: Moderating effects of user experience.* In Technology Management Conference (ITMC), 2011 IEEE International (pp. 625–629). IEEE.

Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers & Education*, *63*, 160–175.

Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *Management Information Quarterly*, *22*.

Chin, W. W. (2010). *How to write up and report PLS analyses*. In Handbook of partial least squares (pp. 655–690). Springer.

Chiu, C.-M., & Wang, E. T. G. (2008). Understanding Web-based learning continuance intention: The role of subjective task value. *Information & Management*, *45*(3), 194–201.

Cooray, A. (2009). Government expenditure, governance and economic growth. *Comparative Economic Studies*, *51*(3), 401–418.

Costello, A. M., & Moerman, W. (2011). The impact of financial reporting quality on debt contracting: Evidence from internal control weakness reports. *Journal of Accounting Research*, *49*(1), 97–136.

Cresswell, J. W., & Plano Clark, V. L. (2011). Designing and conducting mixed method research. 2nd Sage. *Thousand Oaks, CA*.

Danziger, J. N., & Andersen, K. V. (2002). The impacts of information technology on public administration: an analysis of empirical research from the "golden age" of transformation. *International Journal of Public Administration*, *25*(5), 591–627.

Daoud, L., & Ibrahim, M. (2017). A conceptual model of factors affecting e-procurement usage and impact among Jordanian listed firms: The moderating role of environmental uncertainty. *Journal of Advanced Research in Business and Management Studies*.

Daoud, L., & Ibrahim, M. (2018). *The Factors Affecting on E-procurement Usage: The Moderating Role of Power.* In Journal of Physics: Conference Series (Vol. 1019, p. 12076). IOP Publishing.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science*, *35*(8), 982–1003.

Dawes, S. S. (2009). Governance in the digital age: A research and action framework for an uncertain future. *Government Information Quarterly*, *26*(2), 257–264.

Deutsch, M. (1990). Sixty years of conflict. *International Journal of Conflict Management*, *1*(3), 237–263.

Devadoss, P. R., Pan, S. L., and Huang, J. C. Structurational Analysis of e-Government Initiatives: a Case Study of SCO (2002).

Dickinger, A., Arami, M., & Meyer, D. (2008). The role of perceived enjoyment and social norm in the adoption of technology with network externalities. *European Journal of Information Systems*, *17*(1), 4–11.

Dodson, J. (2011). *4 Stops to Navigating the Treacherous Highway of Enterprise Software Adoption*. Centre for European Economic Research.

Duarte, P. A. O., & Raposo, M. L. B. (2010). *A PLS model to study brand preference: An application to the mobile phone market.* In Handbook of partial least squares (pp. 449–485). Springer.

Dwivedi, Y., & Irani, Z. (2009). Understanding the adopters and non-adopters of broadband. *Communications of the ACM*, *52*(1), 122–125.

Ebbers, W. E. (2017). *Modeling the use of e-government services: The role of internet skills, support sources, gender, age, education, internet experience, employment rate and income.* (Master Thesis), Communication Studies University of Twente.

Ebrahim, Z., & Irani, Z. (2005). E-government adoption: architecture and barriers. *Business Process Management Journal*, *11*(5), 589–611.

EGOVKB. (2016). *UN E-government Knowledge DataBase*. Retrieved from https://publicadministration.un.org/egovkb/en-us/Data/Country-information/id/80-Iraq/dataYear/2016

Elli, S. (2012). Investigating factors influencing customers intension for choosing electronic banking services.

El-Masri, M., & Tarhini, A. (2017). Factors affecting the adoption of e-learning systems in Qatar and USA: Extending the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). *Educational Technology Research and Development*, *65*(3), 743–763.

Elsheikh, Y., Cullen, A., & Hobbs, D. (2008). e-Government in Jordan: challenges and opportunities. *Transforming Government: People, Process and Policy*, *2*(2), 83–103.

Elzahar, H., & Hussainey, K. (2012). Determinants of narrative risk disclosures in UK interim reports. *The Journal of Risk Finance*, *13*(2), 133–147.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4.

F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research. *European Business Review*, *26*(2), 106–121.

Faaeq, M. K. (2014). *Factors affecting continued usage intention of electronic government among public servants in Iraq.* (Doctorate Thesis), Universiti Utara Malaysia.

Faaeq, M. K., Ismail, N. A., Osman, W. R. S., Al–Swidi, A. K., & Faieq, A. K. (2013). A meta–analysis of the unified theory of acceptance and use of technology studies among several countries. *Electronic Government, an International Journal*, *10*(3–4), 343–360.

Fakhoury, R., & Aubert, B. (2017). The impact of initial learning experience on digital services usage diffusion: A field study of e-services in Lebanon. *International Journal of Information Management*, *37*(4), 284–296.

Farhat, A. A. (2018). *Adoption of ICT in a government organization in a developing country: an empirical study*. БГТУ.

Fearon, J. D. (2007). *Iraq's Civil War*. Retrieved from https://www.foreignaffairs.com/articles/iraq/2007-03-01/iraqs-civil-war

Fernandes, V. (2012). Rediscovering the PLS approach in management science. *Management Science*, *15*(1).

Fingar, C. T. (2009). *Global trends 2025: A transformed world*. DIANE Publishing.

Fink, A. (2012). *How to conduct surveys: A step-by-step guide: A step-by-step guide*. Sage Publications.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*.

Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 440–452.

Foxall, G., Leek, S., & Maddock, S. (1998). Cognitive antecedents of consumers willingness to purchase fish rich in Polyunsaturated Fatty Acids (PUFA). *Appetite*, *31*(3), 391–402.

García-Sánchez, I., Rodríguez-Domínguez, L., & Frias-Aceituno, J. (2013). Evolutions in e-governance: evidence from Spanish local governments. *Environmental Policy and Governance*, *23*(5), 323–340.

Garín-Muñoz, T., López, R., Pérez-Amaral, T., Herguera, I., & Valarezo, A. (2018). Models for individual adoption of eCommerce, eBanking and eGovernment in Spain. *Telecommunications Policy*.

Gill, J. D., Crosby, L. A., & Taylor, J. R. (1986). Ecological concern, attitudes, and social norms in voting behavior. *Public Opinion Quarterly*, *50*(4), 537–554.

Granello, D. H., & Wheaton, J. E. (2004). Online data collection: Strategies for research. *Journal of Counseling & Development*, *82*(4), 387–393.

Grönlund, Å., & Horan, T. A. (2005). Introducing e-gov: history, definitions, and issues. *Communications of the Association for Information Systems*, *15*(1), 39.

Guay, W., Samuels, D., & Taylor, D. (2016). Guiding through the fog: Financial statement complexity and voluntary disclosure. *Journal of Accounting and Economics*, *62*(2–3), 234–269.

Gupta, P., Seetharaman, A., & Raj, J. R. (2013). The usage and adoption of cloud computing by small and medium businesses. *International Journal of Information Management*, *33*(5), 861–874.

Haddad, M., & Rossotto, C. M. (2017). Developing broadband in frontier markets: opportunities and challenges in the Kurdistan Region of Iraq. *Digital Policy, Regulation and Governance*, *19*(2), 126–138.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.

Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced issues in partial least squares structural equation modeling*. SAGE Publications.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis (Vol. 6)* (7th-Editio ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. Y. A., Anderson, R., & Tatham, R. (2010). RE [2010]: Multivariate Data Analysis. *A Global Perspective*.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152.

Hariguna, T. (2017). Understanding of Public Behavioral Intent to Use e-Government Service: An Extended of Unified Theory of Acceptance Use of Technology and Information System Quality. *Procedia Computer Science*, *124*, 585–592.

Hariguna, T., Lai, M.-T., Hung, C.-W., & Chen, S.-C. (2017). Understanding information system quality on public e-government service intention: an empirical study. *International Journal of Innovation and Sustainable Development*, *11*(2–3), 271–290.

Harsh, A., & Ichalkaranje, N. (2015). Transforming e-government to smart government: A South Australian perspective. In *Intelligent Computing, Communication and Devices* (pp. 9–16). Springer.

Hassan, A. A. (2016). Status of E-Government in Iraq and what the challenges of development and implementation. *International Journal of Science and Research (IJSR)*, *5*(5), 15111–15116.

Heeks, R. (2003). *Most eGovernment-for-development projects fail: how can risks be reduced?* (Vol. 14). Institute for Development Policy and Management, University of Manchester Manchester.

Heeks, R. (2005). *Implementing and managing eGovernment: an international text* (1st-Editio ed.). Sage Publications.

Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistics*, *28*(2), 565–580.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing* (pp. 277–319). Emerald Group Publishing Limited.

HIIK. (2014). The Heidelberg Institute for International Conflict Research.. *Conflict Barometer*. Retrieved from Heidelberg, Germany:

Holzmann, P., Schwarz, E. J., & Audretsch, D. B. (2018). Understanding the determinants of novel technology adoption among teachers: the case of 3D printing. *The Journal of Technology Transfer*, 1–17.

Hwang, E. J. (2005). Strategic management and financial performance in South Korean apparel retail stores. Virginia Tech.

IBM and EIU. (2002). e-Readiness Rankings. *Economist Intelligence*.

Ibrahim, M. (2012). *Determining Critical Factors of e-procurement using among Malaysian Suppliers towards Performance Impact*.

Ibrahim, M. (2017). Adoption and Use of E-Procurement: A Case Study in HM Sdn. Bhd. *Journal of Business Management and Accounting*.

Ibrahim, M., & Selamat, M. H. (2015). *Outlining the Potential of e-Procurement Adoption among Suppliers in Malaysia*. International Conference on E-Commerce.

Ifinedo, P. (2012). Factors influencing e-government maturity in transition economies

and developing countries: a longitudinal perspective. *ACM SIGMIS Database: The Database for Advances in Information Systems*, *42*(4), 98–116.

Im, I., Hong, S., & Kang, M. S. (2011). An international comparison of technology adoption: Testing the UTAUT model. *Information & Management*, *48*(1), 1–8.

Iraqi Union of Accountants and Auditors. (2018). *IUAA Report For the year 2018*. Iraq. https://doi.org/Accessd on 2018/07/20

Itika, J., Ridder, K. de, & Tollenaar, A. (2011). *Theories and stories in African public administration*. African Studies Centre.

Jabbar, W., Othman, M., & Ramasamy, A. (2013). *Citizen identification system of Iraq: Challenges and barriers in enabling e-government services.* In 4th International Conference on Computing and Informatics (pp. 399–404).

Jain, S. K., & Goel, P. (2012). Consumer Attitudes towards Business Firms' Marketing Philosophy, Consumerism and Government Regulations in India: A Cross-sectional Analysis. *Vision*, *16*(4), 253–271.

Jamel, A. M., & Pusatli, T. (2016). A Report on Using GIS in Establishing Electronic Government in Iraq. *International Journal of Computer Science and Information Security*, *14*(3), 61.

Janssen, M., & Estevez, E. (2013). Lean government and platform-based governance—Doing more with less. *Government Information Quarterly*, *30*, S1–S8.

Jeong, C. (2007). Fundamental of development administration. Selangor: Scholar Press.

Jiang, J. J., Hsu, M. K., Klein, G., & Lin, B. (2000). E-commerce user behavior model: an empirical study. *Human Systems Management*, *19*(4), 265–276.

Kadhim, A. (2010). Iraq's Quest for Democracy amid Massive Corruption. *Arab Reform Bulletin*, *4*.

KAMAU, G. N. (2017). *Contextual factors, user experience, usage and public value of e-government services in kenya*. (PhD Thesis), School of business, University of Nairobi.

Katarzyna, Ż. (2016). The knowledge economy-the diagnosis of its condition in selected countries. *Studia Ekonomiczne*, *271*, 176–188.

Kaynak, E., Kucukemiroglu, O., & Hyder, A. S. (2000). Consumers' country-of-origin (COO) perceptions of imported products in a homogenous less-developed country. *European Journal of Marketing*, *34*(9/10), 1221–1241.

Ke, W. and Wei, K. K. Successful e-Government in Singapore (2004).

Kelman, H. C., & Hamilton, V. L. (1989). *Crimes of obedience: Toward a social psychology of authority and responsibility*. Yale University Press.

Khan, G. F. (2010). Essays on Electronic Government in Developing Countries: A Socio-Technical Perspective. Ph. D, KAIST.

Khan, G. F., Moon, J., Swar, B., Zo, H., & Rho, J. J. (2012). E-government service use intentions in Afghanistan: technology adoption and the digital divide in a war-torn country. *Information Development*, *28*(4), 281–299.

Khan, G. F., Moon, J., Zo, H., & Rho, J. J. (2010). Civil conflict, digital divide, and e-government service adoption: A conflict theory approach. *World Academy of Science, Engineering and Technology*, *66*, 537–549.

Kim, S. (2009). A case study of local e-government performance in South Korea: Do leadership and management for results matter? *International Public Management Review*, *10*(1), 170–199.

Kim, S., Kim, E., Suh, Y., & Zheng, Z. (2016). The effect of service innovation on R&D activities and government support systems: the moderating role of government support systems in Korea. *Journal of Open Innovation: Technology, Market, and Complexity*, *2*(1), 5.

Kimani, M. E., Mouni, G. G., Wanjau, K. L., & Mung'atu, J. K. (2015). Moderating effect of government regulations on the relationship between cost recovery and financing of water investments in Nairobi peri-urban markets in Kenya. *International Academic Journal of Economics and Finance*, 1(4), 14-31.

King, D. B., O'Rourke, N., & DeLongis, A. (2014). Social media recruitment and online data collection: A beginner's guide and best practices for accessing low-prevalence and hard-to-reach populations. *Canadian Psychology/Psychologie Canadienne*, *55*(4), 240.

Klaus, T., & Changchit, C. (2017). Toward an Understanding of Consumer Attitudes on Online Review Usage. *Journal of Computer Information Systems*, 1–10.

Klischewski, R., & Scholl, H. J. (2008). Information quality as capstone in negotiating e-government integration, interoperation and information sharing. *Electronic Government, an International Journal*, *5*(2), 203–225.

Kochanova, A., Hasnain, Z., & Larson, B. (2017). E-government can be good for business. *LSE Business Review*.

Krishnan, S., & Teo, T. S. H. (2012). Moderating effects of governance on information infrastructure and e-government development. *Journal of the Association for Information Science and Technology*, *63*(10), 1929–1946.

Kuan, K. K. Y., & Chau, P. Y. K. (2001a). A perception-based model for EDI adoption in small businesses using a technology–organization–environment framework. *Information & Management*, *38*(8), 507–521.

Kumar, R., Sachan, A., & Mukherjee, A. (2017). Qualitative approach to determine user experience of e-government services. *Computers in Human Behavior*, *71*, 299–306.

Kumar, V., Mukerji, B., Butt, I., & Persaud, A. (2007). Factors for successful e-government adoption: A conceptual framework. *Electronic Journal of E-Government*, *5*(1).

Kundeliene, K. (2010). Assessment possibilities of business processes accounting quality. *Economics & Management*, *15*, 972–978.

Lallmahomed, M. Z. I., Lallmahomed, N., & Lallmahomed, G. M. (2017). Factors influencing the adoption of e-Government Services in Mauritius. *Telematics and Informatics*, *34*(4), 57–72.

Lallo, N. Y. H. (2012). *Critical Succes Factors, Instructors' Characteristics and Accounting Information System Course Content*. (Doctorate Thesis), Universiti Utara Malaysia.

Lee, C., Chang, K., & Berry, F. S. (2011). Testing the development and diffusion of e-government and e-democracy: A global perspective. *Public Administration Review*, *71*(3), 444–454.

Lee, J.-K., Braynov, S., & Rao, R. (2003). Effects of public emergency on citizens' usage intention toward e-government: A study in the context of war in Iraq. *ICIS 2003 Proceedings*, 83.

Lee, S., & Choeh, J. Y. (2016). The determinants of helpfulness of online reviews. *Behaviour & Information Technology*, *35*(10), 853–863.

Lefever, S., Dal, M., & Matthiasdottir, A. (2007). Online data collection in academic research: advantages and limitations. *British Journal of Educational Technology*, *38*(4), 574–582.

Levi-Faur, D. (2012). *From "big government" to "big governance."* The Oxford Handbook of Governance, 3–18.

Li, N., & Wu, D. D. (2010). Using text mining and sentiment analysis for online forums hotspot detection and forecast. *Decision Support Systems*, *48*(2), 354–368.

Liaw, S.-S., & Huang, H.-M. (2003). An investigation of user attitudes toward search engines as an information retrieval tool. *Computers in Human Behavior*, *19*(6), 751–765.

Lin, P.-C., Lu, H.-K., & Liu, S.-C. (2013). Towards an education behavioral intention model for e-learning systems: an extension of UTAUT. *Journal of Theoretical & Applied Information Technology*, *47*(3).

Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, *29*(4), 446–454.

Little, R. J. A., & Rubin, D. B. (1989). The analysis of social science data with missing values. *Sociological Methods & Research*, *18*(2–3), 292–326.

Liu, Y., & Li, H. (2011). Exploring the impact of use context on mobile hedonic services adoption: An empirical study on mobile gaming in China. *Computers in Human Behavior*, *27*(2), 890–898.

Luqman, A., Razak, R. C., Ismail, M., & Alwi, M. A. M. (2016). *Predicting continuance intention in mobile commerce usage activities: The Effects of Innovation Attributes.*

In 8th International Conference on Humanities and Social Sciences held on (pp. 27–29).

Macedo, I. M. (2017). Predicting the acceptance and use of information and communication technology by older adults: An empirical examination of the revised UTAUT2. *Computers in Human Behavior*, *75*, 935–948.

Maldonado, P. T. U., Khan, G. F., Moon, J., & Rho, J. J. (2011). E-learning motivation and educational portal acceptance in developing countries. *Online Information Review*, *35*(1), 66–85.

Marchewka, J. T., & Kostiwa, K. (2007). An application of the UTAUT model for understanding student perceptions using course management software. *Communications of the IIMA*, *7*(2), 10.

Marhaiza, I & Selamat, M. H. (2010). The adoption of e-procurement (e-perolehan)among suppliers in malaysia. *Procceding of the Regional Postgraduate Business Colloquium.*

Marhaiza, I & Selamat, M. H. (2011). Adoption, Usage and Impact of e-Procurement Amonge Suppliers in Malaysia, *Procceding of the 3rd International Conference on Computing and Informatics (ICOCI)*. Bandung, Indonesia.

Marhaiza, I & Selamat, M. H. (2011). Deffuosion of e-procurement Amonge Suppliers in Malaysia, *Procceding of the 9th Asian Academy of Management International Confrence (AAMC).* Penang.

Marhaiza, I & Selamat, M. H. (2011). Deffuosion of e-procurement Amonge Malaysian Entrepreneurs, *Procceding of the 2nd* Entrepreneurs*ship and Management International Confrence (EMIC).*UITM and UNIMAP, Perlis.

Marhaiza, I & Selamat, M. H. (2011). Deffuosion of e-procurement Amonge SME in Malaysia, *Procceding of the first Qualitaitive Research Confrence 2012*. Seri pacific Hotel, Kuala Lampur.

Martinus, I., Sharief, M., & Graul, B. (2007). *Government of iraq egovernment strategy 2007-2010.* USAID-Funded Economic Governance II Project. Retrieved from http://workspace.unpan.org/sites/internet/Documents/UNPAN033438.pdf

Matloob, A. I. (2008). *IRAQ: e-Government issues*. UNDESA, Republic of IRAQ: Ministry of Science and Technology.

Matsuo, M., Minami, C., & Matsuyama, T. (2018). Social influence on innovation resistance in internet banking services. *Journal of Retailing and Consumer Services*, *45*, 42–51.

May, P. J. (2005). Regulation and compliance motivations: Examining different approaches. *Public Administration Review*, *65*(1), 31–44.

Merhi, M. I. (2015). Factors influencing higher education students to adopt podcast: An empirical study. *Computers & Education*, *83*, 32–43.

Merriam, S. B. (2015). *Qualitative Research: Designing, Implementing, and Publishing*

a Study. In Handbook of Research on Scholarly Publishing and Research Methods (pp. 125–140). IGI Global.

Mishra, A., Maheswarappa, S. S., Maity, M., & Samu, S. (2018). Adolescent's eWOM intentions: An investigation into the roles of peers, the Internet and gender. *Journal of Business Research*, *86*, 394–405.

Mohammed, M. A., Aboobaider, B. M., Ibrahim, H., Abdullah, H. A., Ali, M. H., Jaber, M. M., & Shawkat, A. (2016). E-government and its Challenges in Developing Countries: Case Study Iraqi e-Government. *The Social Sciences*, *11*(17), 4310–4319.

Mohammed, M. A., Eman, Y., Hussein, A. H., & Hasson, A. R. (2015). *E-government factors to reduce administrative and finance corruption in Arab countries: Case study Iraqi oil sector.* In AIP Conference Proceedings (Vol. 1691, p. 30021). AIP Publishing.

Mohammed, M. A., Ibrahim, H. B., Hussein, A. H., & Anad, M. M. (2013). *General e-government Structure for Iraqi decentralization government.* In e-Learning, e-Management and e-Services (IC3e), 2013 IEEE Conference on (pp. 152–156). IEEE.

MOHE. (2011). *Ministry of Higher Education and Scientific Research*. Retrieved from http://mohesr.gov.iq/ar/

Monga, A. (2008). E-government in India: Opportunities and challenges. *JOAAG, Vol. 3*.(No. 2), pp.52-61.

Mooney, C. Z., Duval, R. D., & Duvall, R. (1993). *Bootstrapping: A nonparametric approach to statistical inference*. Sage.

Nachmias, D. (2000). Research Methods in the Social Sciences. *Open Journal of Social Sciences. Wadsworth, New York*. *3*(6), 1-11.

Naheb, O. A., Sukoharsono, E. G., & Baridwan, Z. (2017). The influence of critical factors on the behavior intention to computerized accounting systems (cas) in cement manufactures in libya. *The International Journal of Accounting and Business Society*, *25*(1), 38–60.

Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. *The Journal of High Technology Management Research*, *23*(1), 1–14.

Ndou, V. D. (2004). E–Government for developing countries: opportunities and challenges. *The Electronic Journal of Information Systems in Developing Countries*, *18*(1), 1–24.

Nica, E., & Potcovaru, A.-M. (2015). Effective m-government services and increased citizen participation: Flexible and personalized ways of interacting with public administrations. *Journal of Self-Governance and Management Economics*, *3*(2), 92–97.

Nichols, M. (2017). *U.N. team to collect evidence of Islamic State crimes in Iraq*.

https://doi.org/United Nations (Reuters)

Norris, D. F., & Kraemer, K. L. (1996). Mainframe and PC computing in American cities: myths and realities. *Public Administration Review*, 568–576.

Norris, D. F., & Moon, M. J. (2005). Advancing e-government at the grassroots: Tortoise or hare? *Public Administration Review*, *65*(1), 64–75.

Nugroho, R. A. (2015). *Electronic government adoption in developing countries: the case of the Indonesian electronic procurement system*. (Doctorate Thesis), School of Nursing, Midwifery and Social Work, The University of Queensland.

Obaji, N. O., Adekanbi, F., & Obiekwe, B. (2015). The Moderating Impact of Government Policy And Sustainable Financial Resources As A Critical Success Factor For Incubator Performance in Nigeria. *International Journal of Science Technology and Management*.

Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *The Electronic Journal Information Systems Evaluation*, *14*(1), 110–121.

Organization, I. S. (2017). *Internet Society Global Internet Report: Paths to Our Digital Future*. https://doi.org/Accessed October 2018

Osman, I. H., Anouze, A. L., Irani, Z., Al-Ayoubi, B., Lee, H., Balcı, A., Weerakkody, V. (2014). COBRA framework to evaluate e-government services: A citizen-centric perspective. *Government Information Quarterly*, *31*(2), 243–256.

Ovais Ahmad, M., Markkula, J., & Oivo, M. (2013). Factors affecting e-government adoption in Pakistan: a citizen's perspective. *Transforming Government: People, Process and Policy*, *7*(2), 225–239.

Pal, A., Herath, T., De, R., & Rao, H. R. (2018). Factors facilitating Adoption of Mobile Payment Services over Credit/Debit Cards: An Investigation after the Demonetization Policy Shock in India.

Palea, V. (2014). Fair value accounting and its usefulness to financial statement users. *Journal of Financial Reporting and Accounting*, *12*(2), 102–116.

Pan, C.-H., & Jang, C.-L. (2008). The Institutional Effects on the Evolvement of e-Government Online Service Delivery in the US Cities. *Public Administration & Policy*, *47*, 131–176.

Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-learning. *Educational Technology & Society*, *12*(3), 150–162.

Pathak, R. D., Singh, G., Smith, R. F. I., & Naz, R. (2008). *Improving government transparency and accountability contribution of information and communication technology in improving government coordination, services and accountability in Fiji*. Research Paper. Fiji

Payne, E. A., & Curtis, M. B. (2008). Can the unified theory of acceptance and use of

technology help us understand the adoption of computer-aided audit techniques by auditors. In *Working Paper*.

Peek, S. T. M., Wouters, E. J. M., van Hoof, J., Luijkx, K. G., Boeije, H. R., & Vrijhoef, H. J. M. (2014). Factors influencing acceptance of technology for aging in place: a systematic review. *International Journal of Medical Informatics*, *83*(4), 235–248.

Peter. (2017). *Most Dangerous Countries In The World 2017-Ranked*. Retrieved from https://www.atlasandboots.com/most-dangerous-countries-in-the-world-ranked/

Quinn Patton, M. (2002). *Qualitative research and evaluation methods* (4th-Editio ed.). Sage Publications.

Rafia, N. A. Z. (2009). E-governance for improved public service delivery in Fiji. *Journal of Service Science and Management*, *2*(03), 190.

Rahman, A. L. A., Jamaludin, A., & Mahmud, Z. (2011). Intention to use digital library based on modified UTAUT model: Perspectives of Malaysian postgraduate students. *World Academy of Science, Engineering and Technology*, *75*, 116–122.

Ramanathan, R., Ramanathan, U., & Ko, L. W. L. (2014). Adoption of RFID technologies in UK logistics: Moderating roles of size, barcode experience and government support. *Expert Systems with Applications*, *41*(1), 230–236.

Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2016). *Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS 3.0: An Updated Practical Guide to Statistical Analysis (Basic Level)*. Pearson Singapore.

Ramayah, T., Lee, J. W. C., & In, J. B. C. (2011). Network collaboration and performance in the tourism sector. *Service Business*, *5*(4), 411.

Rasool, T., & Warraich, N. F. (2018). Does Quality matter: *A systematic review of information quality of E-Government websites.* In Proceedings of the 11th International Conference on Theory and Practice of Electronic Governance (pp. 433–442). ACM.

Rehman, M., Esichaikul, V., & Kamal, M. (2012). Factors influencing e-government adoption in Pakistan. *Transforming Government: People, Process and Policy*, *6*(3), 258–282.

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, *26*(4), 332–344.

Riahi-Belkaoui, A. (2004). *Accounting theory*. Cengage Learning EMEA, 5th Edition.

Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS 2.0 (Beta). Hamburg. *Available in Http://Www. Smartpls. De*.

Ritchi, H., Fettry, S., & Susanto, A. (2016). Toward Defining Key Success Factors of E-Government and Accounting Information Quality: Case of Indonesia. *International Journal of Accounting Research*, *2*(1), 20–35.

Rodriguez Bolivar, M. P., Caba Perez, C., & Lopez Hernandez, A. M. (2007). E-Government and public financial reporting: the case of Spanish regional governments. *The American Review of Public Administration*, *37*(2), 142–177.

Rosdini, D., & Ritchi, H. (2017). Examining Accounting Information System in a Shared Environment: The Measure of System Adoption Efficacy–Indonesia Case. *Review of Integrative Business and Economics Research*, *6*(2), 326.

Rose, J., Persson, J. S., Heeager, L. T., & Irani, Z. (2015). Managing e-Government: value positions and relationships. *Information Systems Journal*, *25*(5), 531–571.

Rubin, D. B. (1976). Inference and missing data. *Biometrika*, *63*(3), 581–592.

Sanakulov, N., & Karjaluoto, H. (2018). A Cross-Cultural Study of Smartphone Adoption in Uzbekistan and South Korea. In *Global Observations of the Influence of Culture on Consumer Buying Behavior* (pp. 171–189). IGI Global.

Scholl, H. J. (2003). *E-government: a special case of ICT-enabled business process change.* In System Sciences, 2003. Proceedings of the 36th Annual Hawaii International Conference on (p. 12–pp). IEEE.

Schunk, D. H., & Zimmerman, B. J. (2012). *Motivation and self-regulated learning: Theory, research, and applications*. Routledge.

Scott, T. W. (1994). Incentives and disincentives for financial disclosure: Voluntary disclosure of defined benefit pension plan information by Canadian firms. *Accounting Review*, 26–43.

Secretariat, C. (2001). Electronic governance and electronic democracy: living and working in the wired world. *Electronic Governance and Electronic Democracy*, 125–126.

Seifert, J. W. (2003). *A primer on e-government: Sectors, stages, opportunities, and challenges of online governance.* Library of Congress Washington DC Congressional Research Service.

Sekaran, U. a. (2013). *Research methods for business* (6th ed.). New York: New York Wiley.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach* (4th-Editio ed.). John Wiley & Sons.

Shafi, A.-S., & Weerakkody, V. (2009). Understanding citizens' behavioural intention in the adoption of e-government services in the state of Qatar. In *ECIS Journal* (pp. 1618–1629).

Shareef, S. M. (2012). *Electronic government adoption based on citizen-centric approach in regional government in developing countries: the case of Kurdistan Region of Iraq (KRI).* (Doctorate Thesis), University of East London.

Sharma, D. (2012). An Evaluation of a citizen‘s charter in local government: a case study of Chandigarh, India. *Joaag*, *7*(1), 86–95.

Sharma, S., & Crossler, R. E. (2014). Disclosing too much? Situational factors affecting information disclosure in social commerce environment. *Electronic Commerce Research and Applications*, *13*(5), 305–319.

Sheridan, W., & Riley, T. B. (2006). Comparing e-government vs. e-governance. *Commonwealth Center for E-Governance*, 1–5.

Sheth, J. N., & Frazier, G. L. (1982). A model of strategy mix choice for planned social change. *The Journal of Marketing*, 15–26.

Shurafa, R., & Mohamed, R. B. (2016). International Journal of Advanced and Applied Sciences.

Singh, G., Pathak, R. D., & Naz, R. (2011). Service delivery through e-governance: perception and expectation of customers in Fiji and PNG. *Public Organization Review*, *11*(4), 371–384.

Slatkevičienė, G. (2001). Organizacijos veiklos kompleksinio įvertinimo sistemos formavimo metodologiniai pagrindai. *Daktaro Disertacija, 2001b, Kaunas: Technologija*.

Srivastava, S. C. (2011). Is e-government providing the promised returns? A value framework for assessing e-government impact. *Transforming Government: People, Process and Policy*, *5*(2), 107–113.

Stair, R., & Reynolds, G. (2017). *Fundamentals of information systems* (9th-Editio ed.). Cengage Learning.

Stephen H, H., Norris, D. F., & Fletcher, P. D. (2003). Electronic government at the local level: Progress to date and future issues. *Public Performance & Management Review*, *26*(4), 325–344.

Straub, D., Keil, M., & Brenner, W. (1997). Testing the technology acceptance model across cultures: A three country study. *Information & Management*, *33*(1), 1–11.

Šumak, B., & Šorgo, A. (2016). The acceptance and use of interactive whiteboards among teachers: Differences in UTAUT determinants between pre-and post-adopters. *Computers in Human Behavior*, *64*, 602–620.

Tariq, B., & Mat, N. K. N. (2017). *Preliminary study for understanding the moderating role of government regulations in telecom sector of Pakistan*. In AIP Conference Proceedings (Vol. 1891, p. 20140). AIP Publishing.

Taylor, C. L. (1992). *Formatting a Mail Questionnaire*. University of Florida Cooperative Extension Service, Institute of Food and Agriculture Sciences, EDIS.

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, *6*(2), 144–176.

Temme, D., Kreis, H., & Hildebrandt, L. (2010). *A comparison of current PLS path modeling software: Features, ease-of-use, and performance*. In Handbook of partial least squares (pp. 737–756). Springer.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, *48*(1), 159–205.

Teo, H.-H., Wei, K. K., & Benbasat, I. (2003). Predicting intention to adopt interorganizational linkages: An institutional perspective. *MIS Quarterly*, 19–49.

Teo, T. S. H., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems*, *25*(3), 99–132.

The Iraqi Ministry of Interior (2014). *Intimation to the citizens of the occupied governorates.* Retrieved from http://moi.gov.iq/ArticleShow.aspx?ID=10564

Thomas, T., Singh, L., & Gaffar, K. (2013). The utility of the UTAUT model in explaining mobile learning adoption in higher education in Guyana. *International Journal of Education and Development Using ICT*, *9*(3).

Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: toward a conceptual model of utilization. *MIS Quarterly*, 125–143.

Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research and Applications*, *5*, 147–158.

Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). *The processes of technological innovation. Issues in organization and management series.* Lexington Books.

Trevithick, J. (2017). *Has The Iraqi Civil War Begun?* Retrieved from http://www.thedrive.com/the-war-zone/15174/has-the-iraqi-civil-war-begun

UNDESA. (2003). UN Global eGovernment Survey. *United Nations Department of Economic and Social Affairs*.

UNDP Iraq. (2017). *Implementation of e-tendering in UNDP Iraq*.

USAID. (2016). *Importance Of E-Government In Improving Governmental Performance And Service Delivery Erbil*. Iraq. Retrieved from http://iraqgsp.org/wp-content/uploads/2017/01/E-Govrnance-the-way-to-improve-GO-performance_SD_2016_Eng.compressed.pdf

Valente, T. W., & Rogers, E. M. (1995). The origins and development of the diffusion of innovations paradigm as an example of scientific growth. *Science Communication*, *16*(3), 242–273.

Van Teijlingen, E. R., Rennie, A., Hundley, V., & Graham, W. (2001). The importance of conducting and reporting pilot studies: the example of the Scottish Births Survey. *Journal of Advanced Nursing*, *34*(3), 289–295.

Venables, A. J. (2016). Using natural resources for development: why has it proven so difficult? *Journal of Economic Perspectives*, *30*(1), 161–184.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *46*(2),

186–204.

Venkatesh, V., & Zhang, X. (2010). Unified theory of acceptance and use of technology: US vs. China. *Journal of Global Information Technology Management*, *13*(1), 5–27.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425–478.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 157–178.

Wagana, D. M., Iravo, M. A., Nzulwa, J. D., & Kihoro, J. M. (2016). The Moderating Effects Of E-Government On The Relationship Between Administrative Decentralization And Service Delivery In County Governments In Kenya. *European Scientific Journal, ESJ*, *12*(17).

Wang, C., Zhang, X., & Hann, I.-H. (2018). Socially nudged: A quasi-experimental study of friends' social influence in online product ratings. *Information Systems Research*.

Wangpipatwong, S., Chutimaskul, W., & Papasratorn, B. (2008). Understanding Citizen's Continuance Intention to Use e-Government Website: a Composite View of Technology Acceptance Model and Computer Self-Efficacy. *Electronic Journal of E-Government*, *6*(1).

Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 177–195.

Witarsyah, D., Sjafrizal, T., Fudzee, M. D., Farhan, M., & Salamat, M. A. (2017). The critical factors affecting E-Government adoption in Indonesia: A conceptual framework. *International Journal on Advanced Science, Engineering and Information Technology*, *7*(1), 160–167.

Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.

Wysokińska, Z. (2012). European Union Entrepreneurship and Innovativeness Support Policy for Businesses. *Comparative Economic Research*, *15*(2), 5–29.

Yaffee, R. A. (2002). Robust regression analysis: Some popular statistical package options. *ITS Statistics, Social Science and Mapping Group, New York State University, Downloaded on Dec*, *23*, 2009.

Yahya, M., Nadzar, F., Masrek, N., & Rahman, B. A. (2011). Determinants of UTAUT in measuring user acceptance of e-Syariah portal in syariah courts in Malaysia. In *2nd International Research Symposium in Service Management, Yogyakarta, Indonesia*.

Zakaria, M. R. (2015). Towards categorizing e-government services: the case of Egypt. *International Journal of Business Research and Development*, *3*(3).

Zapata, G., & Heeks, R. (2015). The multiple meanings of open government data: Understanding different stakeholders and their perspectives. *Government Information Quarterly*, *32*(4), 441–452.

Zhao, F., José Scavarda, A., & Waxin, M.-F. (2012). Key issues and challenges in e-government development: An integrative case study of the number one eCity in the Arab world. *Information Technology & People*, *25*(4), 395–422.

Zhu, K., & Kraemer, K. L. (2005). Post-adoption variations in usage and value of e-business by organizations: cross-country evidence from the retail industry. *Information Systems Research*, *16*(1), 61–84.

Zhu, K., Dong, S., Xu, S. X., & Kraemer, K. L. (2006). Innovation diffusion in global contexts: determinants of post-adoption digital transformation of European companies. *European Journal of Information Systems*, *15*(6), 601–616.

Ziemba, E., Papaj, T., & Żelazny, R. (2013). A model of success factors for e-government adoption-the case of poland. *Issues in Information Systems*, *14*(2).

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods*. Cengage Learning.

Appendices

Appendix A1

Iraqi E-Government Portal

Appendix A2

Iraqi E-Government Portal

Appendix B1

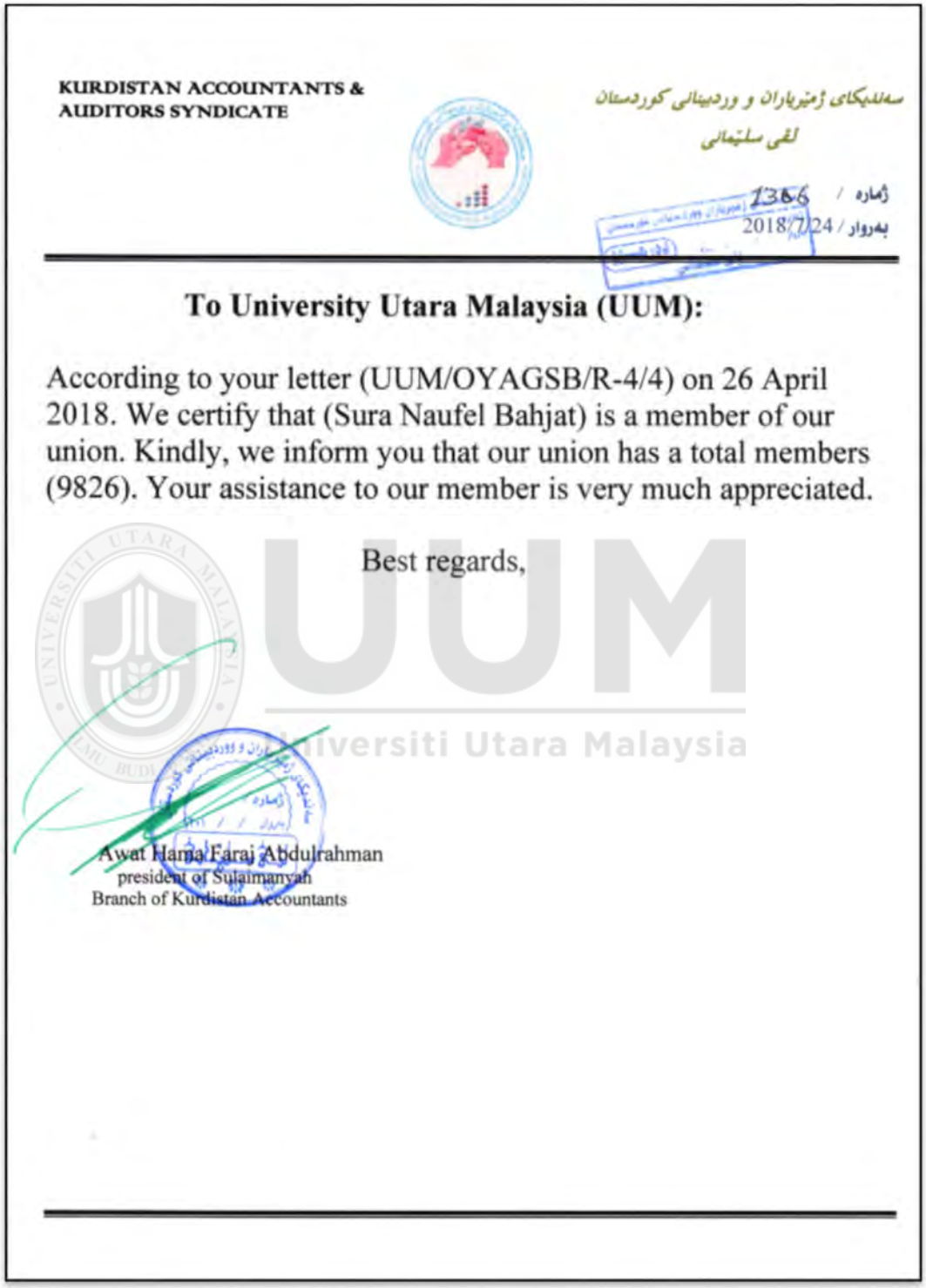
E-government Portal for Citizens Complains and Request submission

Appendix B2

Translation of Iraqi e-government Portal

Appendix C

Population Verification Letter



KURDISTAN ACCOUNTANTS & AUDITORS SYNDICATE

سەندیکای ژمێریاران و وردبینانی کوردستان

لقی سلێمانی

ژمارە / 1366

بەروار / 2018/7/24

To University Utara Malaysia (UUM):

According to your letter (UUM/OYAGSB/R-4/4) on 26 April 2018. We certify that (Sura Naufel Bahjat) is a member of our union. Kindly, we inform you that our union has a total members (9826). Your assistance to our member is very much appreciated.

Best regards,

Awat Hama Faraj Abdulrahman
president of Sulaimanyah
Branch of Kurdistan Accountants

Appendix D

University Approval For Data Collection

OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA

Universiti Utara Malaysia

Tel: 604 928 7101/7113/7130
Faks (Fax): 604 928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

"MUAFAKAT KEDAH"

UUM/OYAGSB/R-4/4/1
26 April 2018

TO WHOM IT MAY CONCERN

Dear Sir/Madam

DATA COLLECTION

COURSE: **Research Paper**
COURSE CODE: **BPMZ69912**
LECTURER: **Dr. Marhaiza Binti Ibrahim**

This is to certify that the following is a postgraduate student from the OYA Graduate School of Business, Universiti Utara Malaysia. She is pursuing the above mentioned course which requires her to undertake an academic study and prepare an assignment. The details are as follows:

NO.	NAME	MATRIC NO.
1.	Sura Naufel Bahjat	822348

In this regard, I hope that you could kindly provide assistance and cooperation for her to successfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"BERKHIDMAT UNTUK NEGARA"
"ILMU, BUDI, BAKTI"

Yours faithfully

ROZITA BINTI KAMLI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Student's File (822348)

Appendix E

Research Questionnaire (English)

Dear respondent,

I am Sura Naufel Bahjat a master's student from the College Of Business (COB), University Utara Malaysia (UUM) under the supervision of Dr. Marhaiza Ibrahim. I am currently working on a master thesis regarding (Factors affecting e-government adoption among accountants in Iraq)

I would appreciate if you could spend some time and thought in completing this questionnaire. I hope that you will cooperate and complete the following questionnaire with the best of your knowledge. This research is conducted for the purpose of academic exercise and part of the requirement for the award of Master of Science in International Accounting Degree.

Electronic Government refers to "The use of information and communication technology (ICT) tools and applications to offer government information and services to citizens, businesses, and other government organizations via the Internet.

The targeted respondent for this survey is the accountants who are an e- government user/ non- user. Your answer is important in order to determine the accuracy and preciseness of this research. Your personal information shall be kept **strictly confidential** and the data will be exclusively used for this research only. The questioner contain of four section please read all the question carefully and complete question according to the given instruction. Thank you very much.

University Utara Malaysia.
Researcher e-mail address: suranaufel2016@gmail.com

Section A: Personal Information

We would like to collect some information's about yourself so that we can understand better your decisions related to the e-government system (Please tick (✓) to the appropriate box).

1. **Gender:** ☐ Male. ☐ Female.

2. **Age:** ☐ ≤ 22. ☐ 23 -35. ☐ 36- 45. ☐ 46-55. ☐ ≥ 56.

3. **Marital Status:** Married ☐ Single ☐

4. **Education level:** ☐ Ph.D. ☐ Master. ☐ Bachelor. ☐ Diploma.
   ☐ Other.....

5. **Your monthly income**
   250,000 - 500,000 500,000 – 750,000 ≥ 750,000

6. **Business sector (place tick your Business sector)**

☐ Agriculture ☐ Manufacturing
☐ Multi ☐ Trading
☐ Services ☐ Tourism
☐ Construction ☐ Transportation

7. **The duration you have used the Internet:**
   ☐ Less than 1 year ☐ 1-3years ☐ 4 to 5 years ☐ more than 5 years

8. **The duration your company has been established**
   ☐ Less than 1 year ☐ 1-5 years ☐ 6-10 years ☐ more than 10 years

Section B: e-government Status in Iraq

Instruction: please tick (✓) or fill in the corresponding box/ space.

(Statement)	Answer
1- Availability of services: I am aware about the availability of e-government services in Iraq.	Yes ( ) No ( )
2- Satisfaction: In general, I am satisfied with the current e-government service in Iraq.	Yes ( ) No ( )
3- Benefit: I am aware of the benefits of the current e-government service in Iraq	Yes ( ) No ( )
4- Routine: e-government services reduce the normal administrative routine in Iraq.	Yes ( ) No ( )
5- Cost: Usage of e-government services could decrease the cost.	Yes ( ) No ( )
6- Time: Use of e-government services could enable me to complete transactions quickly.	Yes ( ) No ( )
7- Flexibility: The current e-government services are flexible.	Yes ( ) No ( )
8- Internet speed: The current Internet speed could affect e-government services.	Yes ( ) No ( )

Section C: We would like some information about the status of e-government services in Iraq

We would like to understand your opinions about the antecedents that are affecting the usage of e-government services in Iraq based on the following scale. (Instruction: please tick (✓) or fill in the corresponding box/ space)

1	2	3	4	5
Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree

1. Performance Expectancy PE (Statement)	Degree of Agreement				
1. I find the e-government services useful in my life.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2. Using the e-government services enables me to accomplish a transaction more quickly.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3. Using e-government services enhances my life efficiency.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4. The e-government services would enable me to access government services when I need them – 24hours/day, 7days/week.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
5. The e-government services would give all citizens an equal chance to carry out their transactions with the government.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

1	2	3	4	5
Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree

2. Effort Expectancy EE (Statement)	Degree of Agreement				
6. My interactions with the e-government services is clear and understandable.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
7. I find the e-government services easy to use.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
8. I find using e-government services flexible.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
9. Using e-government services frequently makes one skilful.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
10. Learning to operate the e-government services is easy for me.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

3. Facilitating Condition	Degree of Agreement				
11. I have the necessary resources to use e-government services facilities.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
12. I have the necessary knowledge to use e-government services facilities.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
13. A specified information and support is available in case of difficulty to access e-government services.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
14. Using the e-government services fits into my work style.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
15. I have enough Internet experience to use e-government services.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

4. Information System Quality	Degree of Agreement				
16. The annual reports disclose forward-looking information	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
17. The annual reports disclose information in terms of business opportunities and risks	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
18. The annual report explains the assumptions and estimations made clearly	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
19. The annual report explains the choice of accounting principles clearly	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
20. The annual reports are well-organized	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
21. The notes to the balance sheet and the income statement are clear	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
22. The notes to changes in accounting policies explain the implications of the change	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
23. The annual report presents financial index numbers and ratios	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

1	2	3	4	5
Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree

5. Social Influence	Degree of Agreement				
24. People in my community think I should use e-government services.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
25. Important people around me think I should use e-government services.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
26. In general, my community has supported the use of e-government services.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
27. Using e-government services has enhanced my knowledge about environment.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
28. People around me who use the e-government services have more prestige.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

6.Regulation support	Degree of Agreement				
29. E-government usage is required in government administration	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
30. Business law support e-government	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
31. Legal protection is provided for online data in e-government	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
32. The rule and regulation by the government encourage the use of e-government	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

7. e-government	Degree of Agreement				
33. I find e-government services useful for managing my life matters	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
34. I believe e-government services create an easy way to achieve my transaction	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
35. I agree that e-government services are encouraging	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
36. I believe fast Internet access speed is important in use of e-government services	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Section D: Comments and Advices

We would like to seek your general comments and advices regarding the barriers and challenges e-government services are facing in Iraq.

1.0 What are the barriers and challenges e-government services process are facing in Iraq, and how can the government can overcome these barriers and challenges?

.....

.....

.....

.....

.....

.....

.....

2.0 Please, write your comments (if any) here.

.....

.....

.....

.....

.....

.....

.....

Your time and corporation are highly valued

Thank you.

Appendix F

Research Questionnaire (Arabic)

عزيزي المستجيب ،

أني سرى نوفل بهجت طالبة ماجستير من كلية إدارة الأعمال، في الجامعة الشمالية الماليزية (UUM) تحت إشراف الدكتورة مرهايزا إبراهيم. أنا أعمل حاليا في أطروحة رسالة الماجستير حول (تحديد العوامل الحاسمة للحكومة الإلكترونية بين المحاسبين في العراق)

سأكون ممتناً لو استطعتم قضاء بعض الوقت والتفكير في إكمال هذا الاستبيان. آمل أن تتعاونوا وتكملوا الاستبيان التالي بأفضل ما لديك. يتم إجراء هذا البحث لغرض التمرين الأكاديمي وجزء من متطلبات منح درجة الماجستير في العلوم في المحاسبة الدولية.

تشير الحكومة الإلكترونية إلى "استخدام أدوات وتطبيقات تكنولوجيا المعلومات والاتصالات لتقديم المعلومات والخدمات الحكومية للمواطنين والشركات والمؤسسات الحكومية الأخرى عبر الإنترنت.

المستجيب المستهدف لهذا الاستبيان هو المحاسبون الذين يعتبرون مستخدمًا / غير مستخدم للحكومه إلكترونية. إجابتك مهمة من أجل تحديد دقة ومصداقيه هذا البحث. يتم الاحتفاظ بمعلوماتك الشخصية بسرية تامة وسيتم استخدام البيانات حصريًا لهذا البحث فقط. يحتوي الأستبيان على أربعة أقسام ، يرجى قراءة كل الأسئلة بعناية وإكمال السؤال وفقا للتعليمات المعطاة. شكرا جزيلا.

جامعه الشمال الماليزيه
عنوان البريد الإلكتروني للباحث: suranaufel2016@gmail.com

القسم أ: المعلومات الشخصية

نود أن نجمع بعض المعلومات عنك حتى نتمكن من فهم قراراتك المتعلقة بنظام الحكومه الإلكترونية (يرجى وضع علامة (✓) (في المربع المناسب).

1. الجنس : ☐ ذكر ☐ أنثى
2. عمرك: ☐ ≤ 22 ☐ 35-23 ☐ 45-36 ☐ 55-46 ☐ 56 ≤.
3. الحالة الإجتماعية متزوج- متزوجه ☐ أعزب- عزباء ☐
4. المستوى التعليمي: ☐ دكتوراه. ☐ ماجستير. ☐ بكالوريوس. ☐ بلوم .
5. دخلك الشهري : ☐ 500000-250000 ☐ 750000-500000 ☐ 750000≤
6. قطاع الأعمال (ضع علامة (✓) على قطاع العمل)

☐ زراعي ☐ صناعي

☐ تجاري ☐ سياحي

☐ خدمات ☐ مشترك

☐ نقل ☐ مقاولات

7. بين مدة استخدامك الانترنت: ☐ اقل من سنة. ☐ من سنة الى 3 سنوات.

☐ 4 الى 5. ☐ اكثر من 5 سنوات.

8. مدة تأسيس شركتك ☐ اقل من سنة. ☐ من سنة الى 5 سنوات.

☐ 6 الى 10سنوات. ☐ اكثر من 10 سنوات.

القسم ب: حالة الحكومة الإلكترونية في العراق

(البيان)	الأجابه
1. توافر الخدمات: أنا على دراية بتوافر خدمات الحكومة الإلكترونية.	نعم ( ) لا ( )
2. الرضا: بشكل عام ، أنا راض عن خدمة الحكومة الإلكترونية الحالية	نعم ( ) لا ( )
3. الفائدة: أنا على دراية بمزايا خدمة الحكومة الإلكترونية الحالية	نعم ( ) لا ( )
4. الروتين: تخفف خدمات الحكومة الإلكترونية من الروتين الإداري المعتاد في العراق.	نعم ( ) لا ( )
5. التكلفة: استخدام خدمات الحكومة الإلكترونية الحالية يقلل من تكلفة معاملة المواطن.	نعم ( ) لا ( )
6. الوقت: يمكن أن يساعدني استخدام خدمات الحكومة الإلكترونية في إتمام المعاملات بسرعة.	نعم ( ) لا ( )
7. المرونة: خدمات الحكومة الإلكترونية الحالية مرنة.	نعم ( ) لا ( )
8. سرعة الإنترنت: يمكن أن تؤثر سرعة الإنترنت الحالية على خدمات الحكومة الإلكترونية	نعم ( ) لا ( )

القسم جـ : نود الحصول على بعض المعلومات عن حالة خدمات الحكومة الإلكترونية في العراق

نود أن نفهم آرائكم حول السوابق التي تؤثر على استخدام خدمات الحكومة الإلكترونية في العراق على أساس المقياس التالي.
(التعليمات: يرجى وضع علامة (✓) أو ملء المربع / المساحة المقابلة).

1	2	3	4	5
لا أوافق بشده	لا أوافق	محايد	أوافق	أوافق بشده

1. الأداء المتوقع	درجة الاتفاق				
1. أجد أن خدمات الحكومة الإلكترونية مفيدة في حياتي.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2. يمكّنني استخدام خدمات الحكومة الإلكترونية من إنجاز صفقة بسرعة أكبر.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3. استخدام خدمات الحكومة الإلكترونية يعزز كفاءة حياتي.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4. سوف تمكنني خدمات الحكومة الإلكترونية من الوصول إلى الخدمات الحكومية عندما أحتاج إليها - 24 ساعة / يوم ، 7 أيام / أسبوع.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5. خدمات الحكومة الإلكترونية ستمنح جميع المواطنين فرصة متساوية لتنفيذ معاملاتهم مع الحكومة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. الجهد المتوقع	درجه الاتفاق				
6. تفاعلاتي مع خدمات الحكومة الإلكترونية واضحة ومفهومة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7. أجد أن خدمات الحكومة الإلكترونية سهلة الاستخدام.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8. أجد أن استخدام خدمات الحكومة الإلكترونية مرنة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9. إن استخدام خدمات الحكومة الإلكترونية غالباً ما يجعل المرء ماهراً.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10. إن تعلم تشغيل خدمات الحكومة الإلكترونية أمر سهل بالنسبة لي.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

1	2	3	4	5
لا أوافق بشده	لا أوافق	محايد	أوافق	أوافق بشده

3. حالة التسهيل	درجة الاتفاق				
11. لدي الموارد اللازمة لاستخدام مرافق الخدمات الحكومية الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12. لدي المعرفة اللازمة لاستخدام مرافق الخدمات الحكومية الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13. تتوفر معلومات ودعم محددين في حالة صعوبة الوصول إلى خدمات الحكومة الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
14. استخدام خدمات الحكومة الإلكترونية يناسب أسلوب عملي.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
15. لدي خبرة إنترنت كافية لاستخدام خدمات الحكومة الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

4. جودة نظام المعلومات	درجة الاتفاق				
16. تكشف التقارير السنوية عن معلومات تطلعية	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
17. تكشف التقارير السنوية المعلومات من حيث الفرص التجارية والمخاطر	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
18. يشرح التقرير السنوي الافتراضات والتقديرات المقدمة بوضوح	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
19. يشرح التقرير السنوي اختيار مبادئ المحاسبة بوضوح	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
20. التقارير السنوية جيدة التنظيم	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
21. الملاحظات على الميزانية العمومية وبيان الدخل واضحة	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
22. تشرح الملاحظات حول التغييرات في السياسات المحاسبية الآثار المترتبة على التغيير	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
23. يقدم التقرير السنوي أرقام المؤشرات المالية والنسب	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

5. التأثير الاجتماعي	درجة الاتفاق				
24. يعتقد الناس في مجتمعي أنني يجب أن أستخدم خدمات الحكومة الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
25. يعتقد الناس المهمون من حولي أنني يجب أن أستخدم خدمات الحكومة الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
26. بشكل عام ، دعمت مجتمعي استخدام خدمات الحكومة الإلكترونية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
27. إن استخدام خدمات الحكومة الإلكترونية قد عزز معرفتي بالبيئة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
28. الناس من حولي الذين يستخدمون خدمات الحكومة الإلكترونية لديهم مكانة أكبر.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

1	2	3	4	5
لا أوافق بشده	لا أوافق	محايد	أوافق	أوافق بشده

6. دعم التنظيم	درجة الاتفاق				
29. مطلوب استخدام الحكومة الإلكترونية في الإدارة الحكومية	☐1	☐2	☐3	☐4	☐5
30. قانون الأعمال دعم الحكومة الإلكترونية	☐1	☐2	☐3	☐4	☐5
31. يتم توفير الحماية القانونية للبيانات عبر الإنترنت في الحكومة الإلكترونية	☐1	☐2	☐3	☐4	☐5
32. إن القاعدة والتنظيم من قبل الحكومة يشجعان استخدام الحكومة الإلكترونية	☐1	☐2	☐3	☐4	☐5

7. الحكومة الإلكترونية	درجة الاتفاق				
33. أجد خدمات الحكومة الإلكترونية مفيدة لإدارة شؤون حياتي	☐1	☐2	☐3	☐4	☐5
34. أعتقد أن خدمات الحكومة الإلكترونية تخلق طريقة سهلة لتحقيق معاملاتي	☐1	☐2	☐3	☐4	☐5
35. أوافق على أن خدمات الحكومة الإلكترونية مشجعة	☐1	☐2	☐3	☐4	☐5
36. أعتقد أن سرعة الوصول إلى الإنترنت مهمة في استخدام خدمات الحكومة الإلكترونية	☐1	☐2	☐3	☐4	☐5

القسم د: التعليقات والنصائح

نود التماس تعليقاتكم ونصائحكم العامة بشأن العوائق والتحديات التي تواجه خدمات الحكومة الإلكترونية في العراق.

1. ما هي العوائق والتحديات التي تواجهها خدمات الحكومة الإلكترونية في العراق ، وكيف يمكن للحكومة أن تتغلب على هذه الحواجزوالتحديات؟.....

.....

.....

2. من فضلك ، استخدم هذه المساحة لكتابة أي تعليقات ترغب في القيام بها.

.....

.....

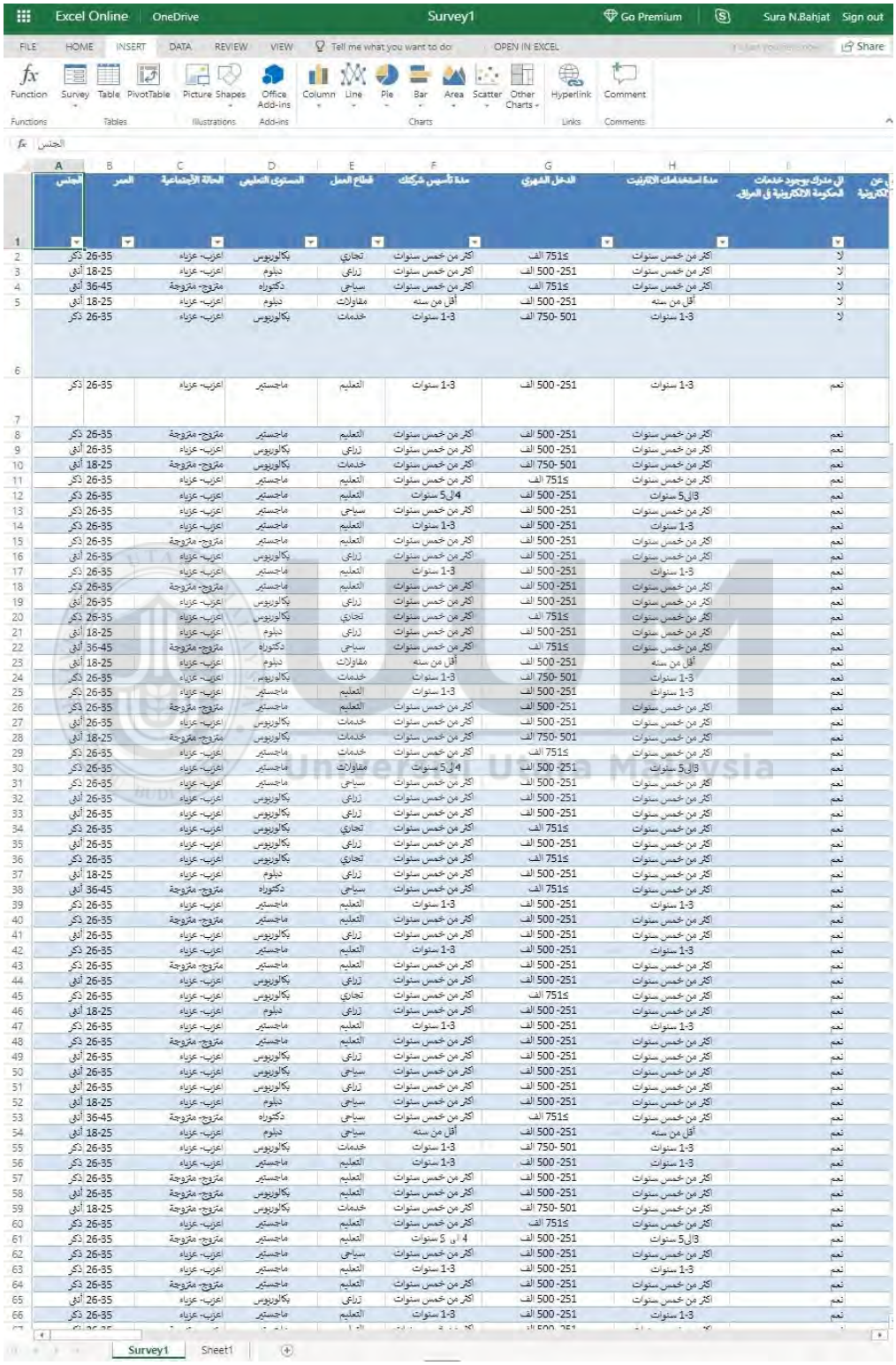
.....

.....

وقتك ومشاركتك تعتبر ذات قيمة عالية ، وشكرا لكم

Appendix G

OneDrive Online Survey Sheet



Appendix H

OneDrive Online Survey Sheet Cover Letter

Appendix I

OneDrive Online Survey Required Field